

OCTOBER 2021

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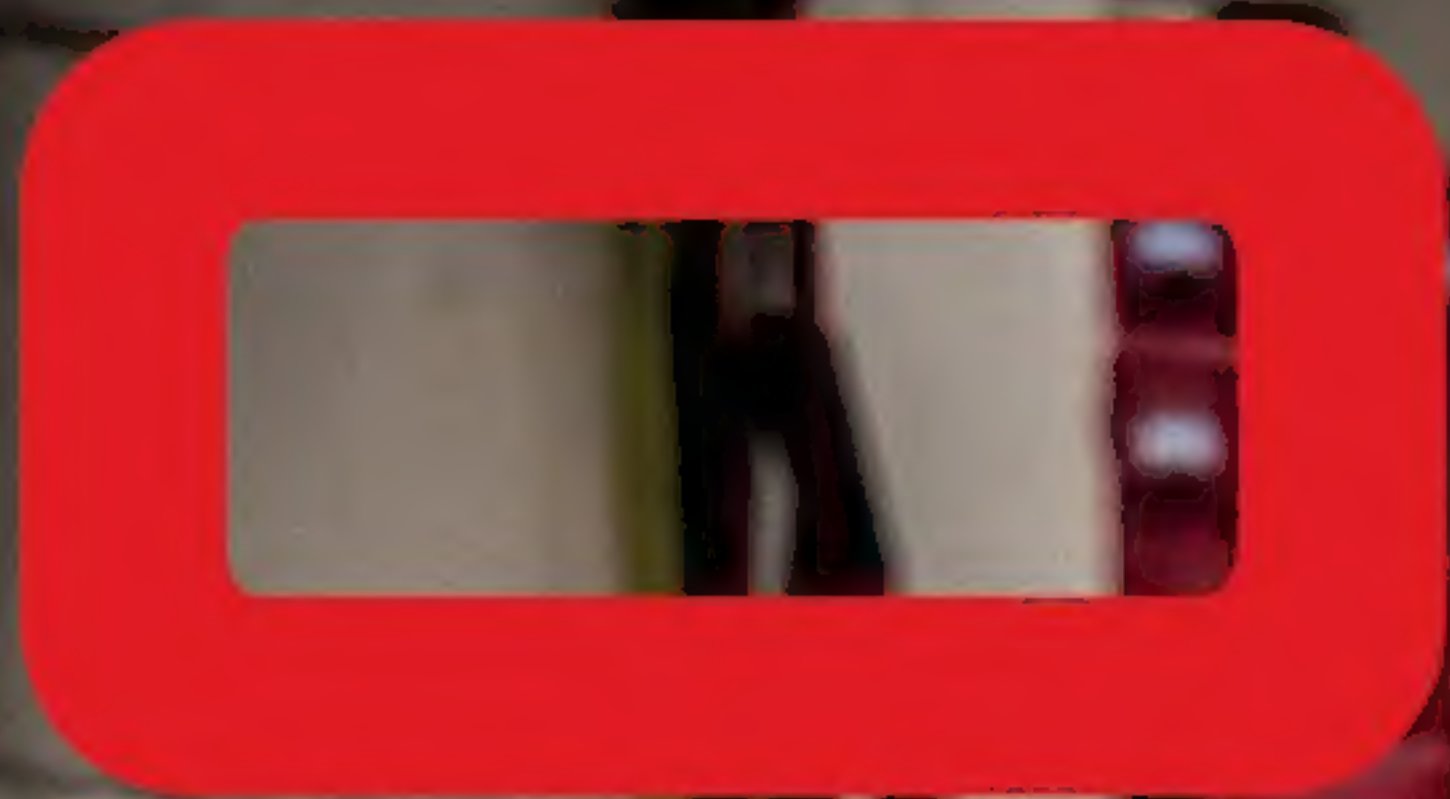
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1958 'Knobbly' Lister Jaguar 3.8

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£POA



2011 Oak Pescarolo 01 Judd - *LMP1*

With period competition history including Sebring, Le Mans and Petit Le Mans this spectacular, Gulf-liveried, Judd-powered, Oak Pescarolo LMP1 has since proved triumphant in Masters Endurance Legends with one pole position and two overall victories to date. Sensational to drive, this race-ready prototype is a certain championship contender.

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2004 Nasamax Judd *LMP1*

The first car to finish Le Mans using renewable fuel. Based on the Reynard 2QK and propelled by the inimitable Judd V10 (since converted for conventional fuel), the Nasamax is exquisitely restored, race-ready and accompanied by a vast spares package.

£575,000



2013 Lola-Mazda B12/60 - *LMP1*

Five podium finishes in the American Le Mans Series with a driver roster led by Le Mans winner, Guy Smith. Highly competitive in Masters Endurance Legends with six outright wins thus far, most recently at the 2021 Silverstone Classic. Also suitable for Sebring and Daytona classics.

£POA



2005 MG Lola EX264 - *LMP2*

Winner of the 2006 Le Mans 24hrs (LMP2) and 2007 Le Mans Series (LMP2), with a total of three participations in the 24 Hours of Le Mans. Extensively recommissioned by MotoHistorics, exquisitely presented and offered in race-ready condition with an accompanying spares package. Suitable for both Masters Endurance Legends and Peter Auto's Endurance Racing Legends.

£POA



March 761 Cosworth DFV

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1981 Rover 3500 SD1 *Group 2*

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£POA



1964 Crosslé 5S

Powered by a 4.6 litre Buick V8, this 380bhp sports racer is a Goodwood regular with a Members' Meeting win and Revival meeting podium to its name.

£125,000 (reduced)

PHOTOGRAPHY TIM SCOTT

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Phil Hill takes in some summer sunshine at the 1959 Nassau Trophy Race after his first full F1 season with Scuderia Ferrari



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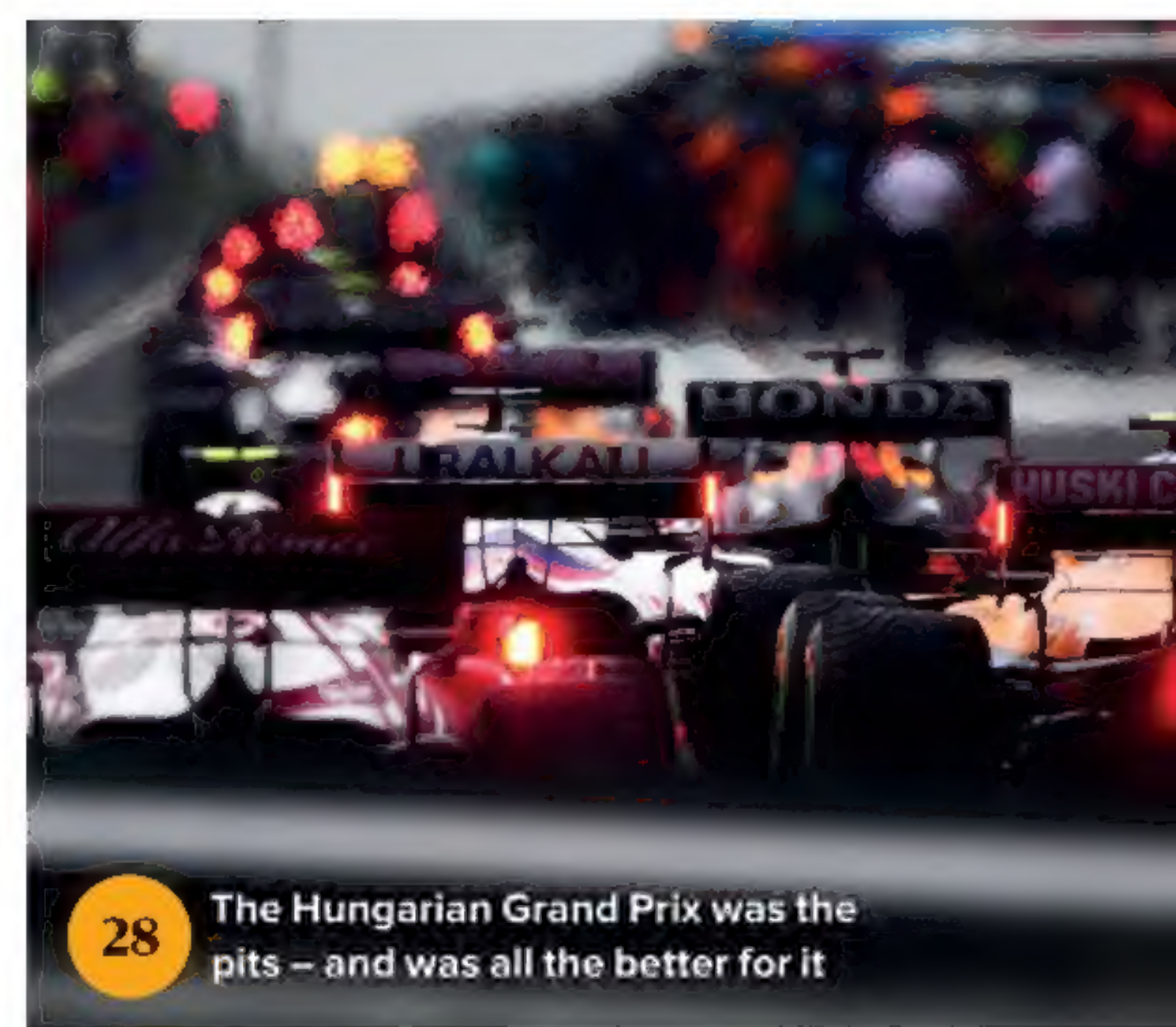
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TOMORROW**

Model shown is a Ford Puma ST 5-Door, 1.5 EcoBoost 200PS (147W) 6 speed manual with optional 19" Magnetite Machined Finish Alloy Wheels and Metallic Paint. Fuel economy mpg (l/100km), (Combined) 41.5 (6.8). CO₂ emissions 155g/km.

Figures shown are for comparability purposes; only compare fuel consumption and CO₂ figures with other cars tested to the same technical procedures. These figures may not reflect real life driving results, which will depend upon a number of factors including the accessories fitted, variations in weather, driving style and vehicle load.

ford.co.uk

IT IS NOT EVERY DAY THAT YOU GET TO dine alongside a £500,000 1963 Porsche 356 Carrera 2, but that is where I found myself the other day. The location was classic car specialist Hexagon Classics in north London, one of the most venerable car dealers in town and home to some truly mouthwatering automotive wares. It is also now a bustling restaurant and events space. But more of that later.

It so happened that the day I arrived for lunch with the owner there was only one topic of conversation for car people: the recently run British Grand Prix. The debate over the collision between Max Verstappen and Lewis Hamilton, who was to blame and which team principal had embarrassed themselves the most was lighting up social media and pub beer gardens across the country. Everyone, it seemed, was suddenly an expert on the correct line to take at 180mph through Copse.

Fortunately for me, the owner of Hexagon Classics, Paul Michaels, is as far from a keyboard warrior or armchair expert as it is possible to get. Readers of this magazine will remember him from his brief foray into F1 as a privateer, firstly in 1972 when he ran John Watson in a March 721 in the non-championship Victory Race, then a one-off entry for Watson in the 1973 British GP and a full campaign with customer Brabhams in 1974.

Under the name Goldie Hexagon Racing, Michaels, then not even 30 years old, entered a BT42 for the first part of the season before swapping to a BT44 and saw Wattie score a memorable sixth place in Monaco ("Because we'd finished in the points, we were invited to the Prince's Palace. I was running around after the race trying to find a hire shop so we could get some dinner jackets") and then a fourth in Austria. It would be the team's best finish. The final GP of the season at Watkins Glen was to be the team's last.

Michaels' take on the first-lap shenanigans at Silverstone, told over some wonderful home-made focaccia and organic salads, is infused with the wisdom of experience. "I always used to say to John Watson, 'To finish first you must first finish,'" he says. "I remember at the German GP he crashed and I was furious: it was an early race in the new BT44 and he put it in the ditch.

"Max was the same. He should never have got involved with that battle on lap one. Horner and the team should have told him: 'You have the faster car, you have the faster pitstop. You will win the race - if you survive the first two

THE EDITOR



"Everyone was suddenly an expert on the correct line through Copse at 180"

laps'. He should have let Lewis play to the home crowd and take the lead, then Max would have won the race. He is young and will learn. In three years Max will win a race like that by letting his opponent pass."

Michaels' showroom has been expanded to include the restaurant, called the Engine Rooms with a menu and quality that wouldn't look out of place in a West End eatery, a cocktail bar and delicatessen-style shop. He has plans to create regular events where classic car and racing fans can congregate on the premises, compare cars, swap stories and form friendships based around their common interest. He is clear that in order to thrive car dealers must offer more than just a showroom full of exotica.

The idea of creating a space for like-minded car fans stretches back to the Ace Cafe, best known as a centre of bike culture in the '60s, then reopened and now a regular venue for car meets. More recently we have seen places such as the Caffeine & Machine, the car-themed

café in Warwickshire, and social events such as the Bicester Scramble, which has recently announced the formation of a new free membership club where enthusiasts can meet and talk car culture in appropriate surroundings. The Classic Motor Hub in Gloucestershire is another dealer which has regular meets with food, and of course there are the breakfast clubs such as Goodwood.

I can't help feeling that Michaels is on to something: by reaching out to people even if they are not potential buyers he is surely keeping the forecourt busy even as car ownership and buying changes rapidly. And you should hear his stories about Bernie...

SPEAKING OF VENUES, THE LAST WORD SHOULD go to Silverstone, which has played a blinder over the past couple of months. Walking around the grandstands and campsites over the British GP weekend was to remind yourself of the joy racing brings to so many - and it was a coup for the circuit to gain permission for a capacity crowd under the government's Event Research Programme.

A couple of weeks later the circuit was at it again, hosting The Classic after a two-year absence. Fifteen classes across 21 races produced breathless action, and more than 100 car clubs displayed about 10,000 classics. Unlike the baking GP weekend, the Classic was sodden but few spirits were dampened.

And why would they be when a visit to the paddock meant you could see a McLaren M23 being polished up next to a Lola T70 - if you hadn't already been distracted by the Maserati 250F next to the Cooper T51.

On track, two racing heroes were well remembered: 1970s and '80s F1 cars diced down the Hangar Straight during the Murray Walker Memorial Trophy, dominated by an Ensign N180B (it's rare you can say that), while the Woodcote and Stirling Moss Trophies featured Jaguar D-types mixing it with DB3s.

Throw in Minis, pre-war grand prix cars and a 60th anniversary celebration for the Jaguar E-type and there was no doubt historic motor sport was well and truly back.

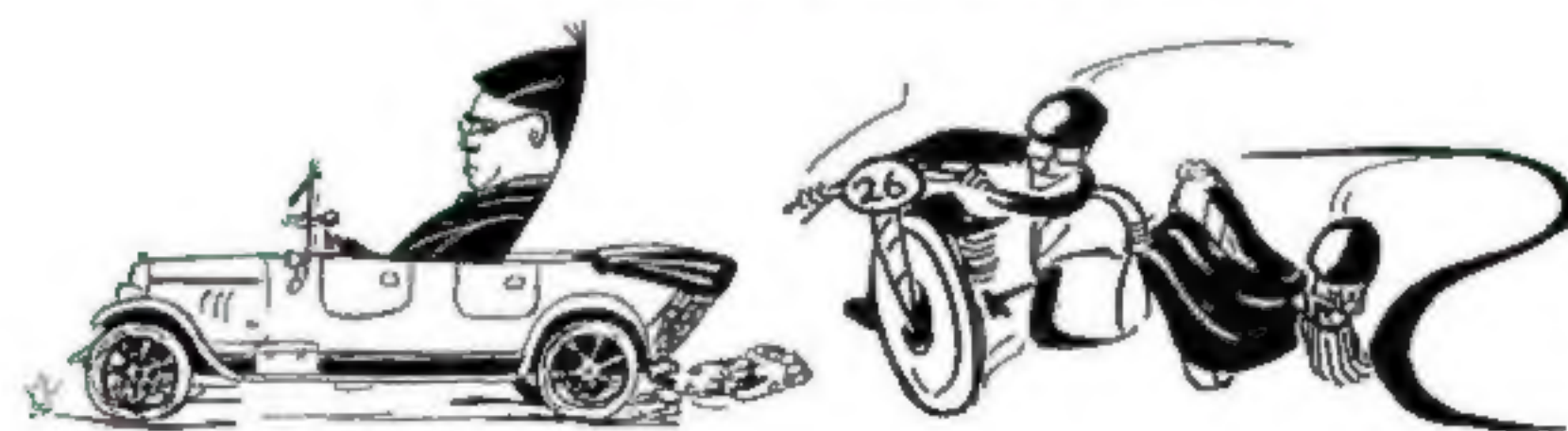
Joe Dunn

Joe Dunn, editor
Follow Joe on Twitter @joedunn90

NEXT ISSUE: OUR NOVEMBER ISSUE IS ON SALE FROM SEPTEMBER 29

MOTORSPORT

IN THE SPIRIT OF BOD AND JENKS



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and Porsche for hosting us at the ExCeL for the 2021 London ePrix

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Details matter.



Formula E returned to London this summer but ExCeL presented surface problems due to its indoor section. A polished concrete slab offered little grip so it was left to London-based track designer Simon Gibbons to find a solution. "We took off 2½mm of the surface, put down an agent that bonded to the concrete and distributed emery, which sank into this adhesive," says race director Oli McCrudden. "Then we had a polymer coating over the top." As we found, it felt like sandpaper and had more grip than outside. For our ePrix report go to page 114.

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Porsche 718 Cayman S (2021) official WLTP combined fuel consumption 27.4 - 29.4 mpg, WLTP combined CO₂ emissions 217 - 235 g/km. **Porsche 911 Carrera 4S** (2021) official WLTP combined fuel consumption 26.4 - 27.7 mpg, WLTP combined CO₂ emissions 231 - 253 g/km. **Porsche Cayenne S** (2021) official WLTP combined fuel consumption 21.9 - 23.9 mpg, WLTP combined CO₂ emissions 268 - 292 g/km. **Porsche Macan S** (2021) official WLTP combined fuel consumption 23.9 - 26.4 mpg, WLTP combined CO₂ emissions 243 - 267 g/km. **Porsche Panamera 4S** (2021) official WLTP combined fuel consumption 25.0 - 27.4 mpg, WLTP combined CO₂ emissions 234 - 256 g/km. **Porsche Taycan 4S** (2021) official WLTP combined energy consumption 21.0 - 25.6 kWh/100km, WLTP combined CO₂ emissions 0g/km. Figures shown are for comparability purposes only and may not reflect real life driving conditions, which will depend upon a number of factors including any accessories fitted, variations in weather, topography and road conditions, driving styles, vehicle load and condition, and state of battery charge.



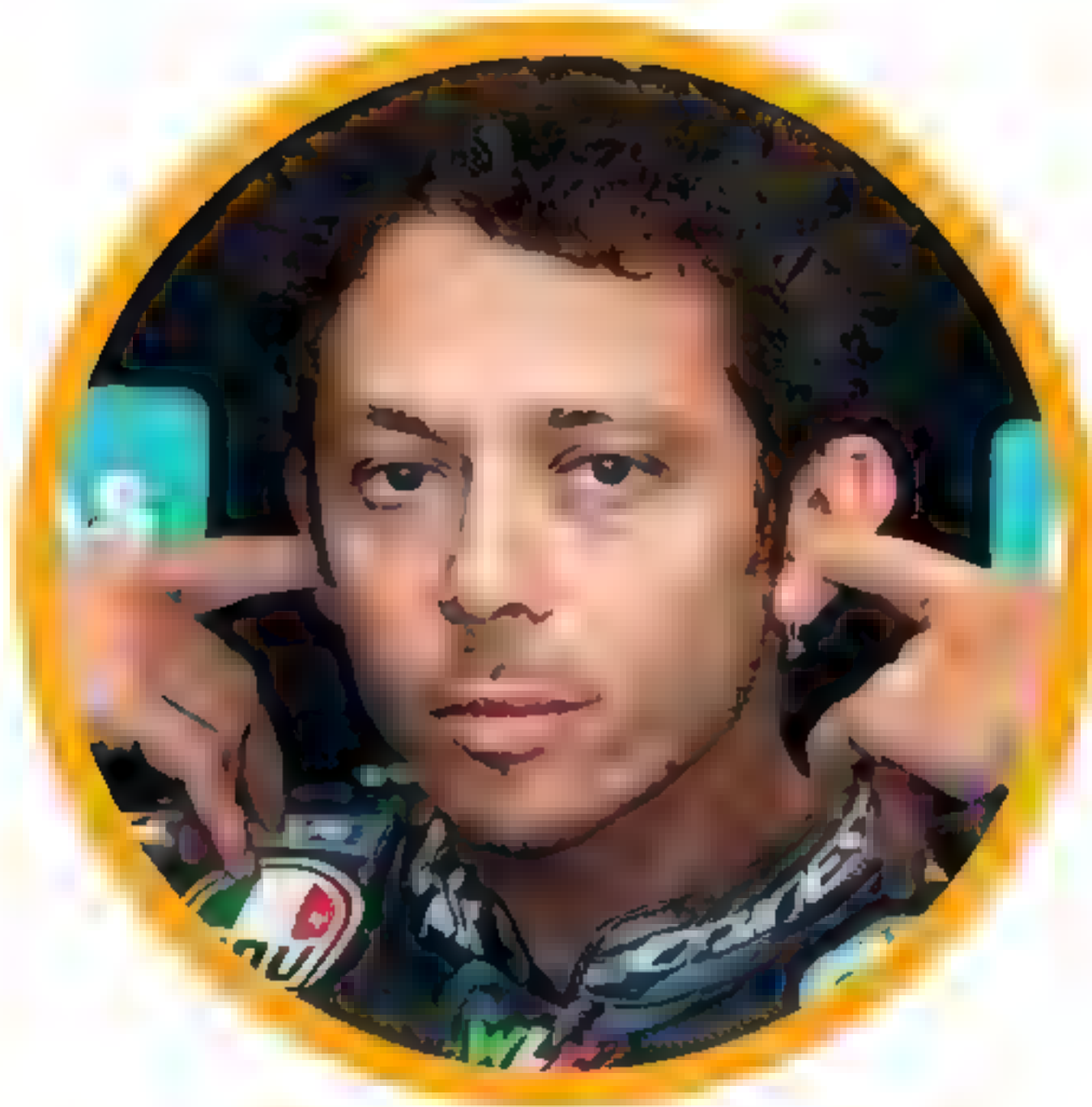
PORSCHE



MATTERS A MOMENT



...the most wins, podiums, starts and points – the vast majority secured with Yamaha.

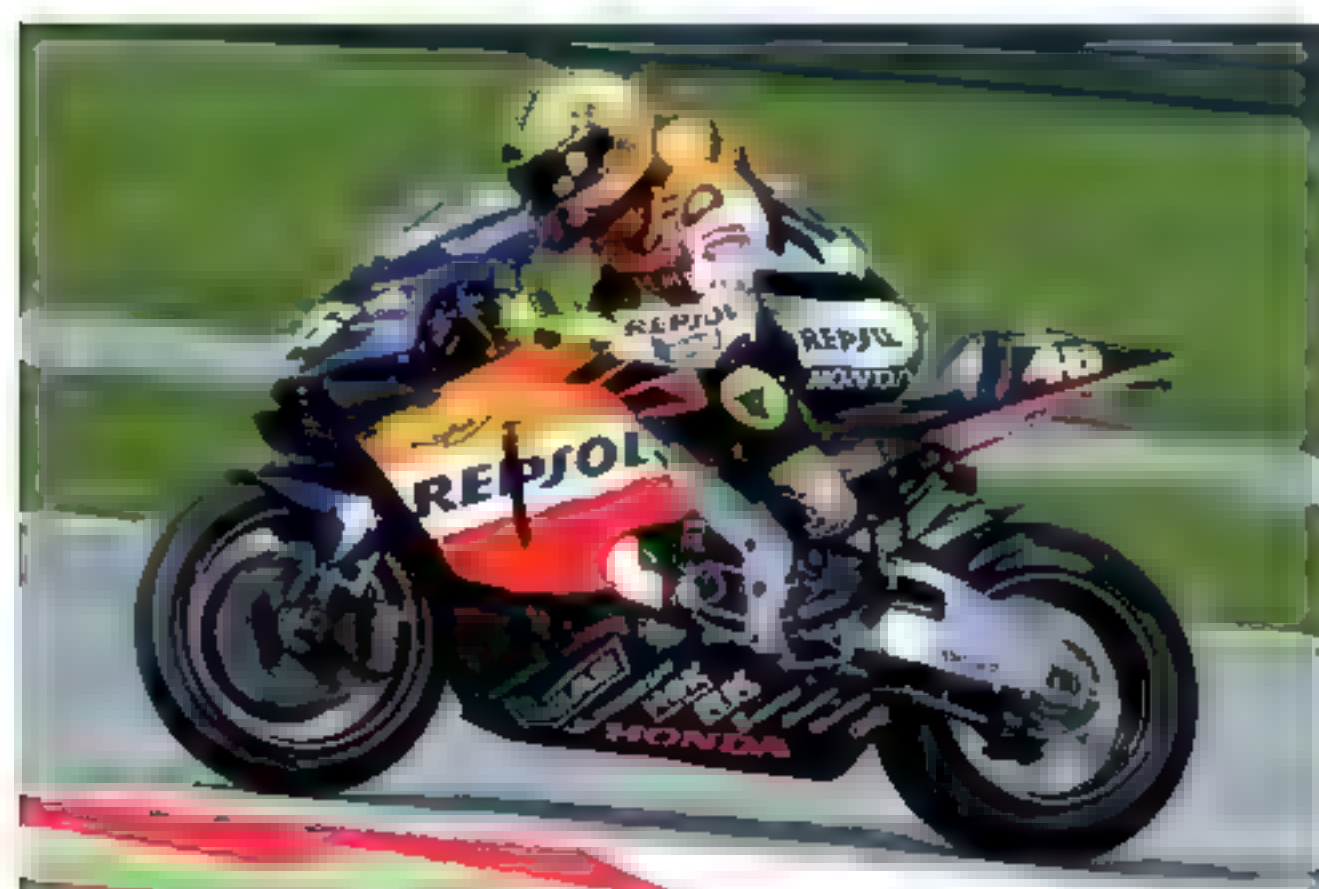


Rossi retires after 26 seasons of grand prix racing

Even if another rider matches his record numbers, we'll likely never see another like Valentino

WHEN VALENTINO ROSSI climbs off his Yamaha YZR-M1 MotoGP bike for the last time at November's Valencia Grand Prix he will have completed 26 world championship seasons, contested 433 grands prix, 373 of them in the premier class, scored 115 grand prix victories and won nine world championship titles.

The numbers are quite literally mind-boggling. Any sportsperson in any field who achieves that kind of success and longevity



Rossi may be synonymous with Yamaha, but his first MotoGP title came with Honda back in 2001

is someone very special indeed, but to do so in such a dangerous game is nothing short of a miracle.

The 42-year-old Italian is MotoGP's Croesus, but all the money in the world couldn't stop him from doing what he loves - racing wheel-to-wheel at 220mph - until this year's grim results (mostly outside the top 10) told him it's time to stop.

What makes Rossi unlike most racers is that he doesn't only win hearts on the track. From the moment the 16-year-old former minimoto champ came skipping into the grand prix paddock in the spring of 1996 it was obvious he was different.

He was always having the time of his life, whether he was dancing with his Aprilia 125 or getting up to mischief in the paddock. On Sunday evenings he liked to visit the media centre to spend an hour or so chatting and joking with journalists. This wasn't normal.

His post-race theatrics wooed fans like they'd never been wooed before - disappearing into a marshal's trackside

Portaloo to celebrate victory in the 250cc Spanish GP at Jerez in 1999 was a favourite.

Therefore it was no surprise that the world fell in love with him. And not only petrolheads - mums, dads, grannies and grandpas were all seduced by the Valentino Rossi charisma.

The world championships seemed like they'd never stop coming: 125cc in 1997, 250 in 1999, 500 in 2001, then MotoGP in 2002, 2003, 2004, 2005, 2008 and 2009. For a while he really was bigger than the sport.

But time waits for no man. Talented, determined youngsters

like Casey Stoner, Jorge Lorenzo and Marc Márquez - sharks, circling for the kill, he called them - arrived to steal his glory. Rossi failed to win another world title and won his last race at Assen in 2017.

Next year he will be boss of his own VR46 team, which will contest the MotoGP and Moto2 championships, backed by Saudi oil company Aramco. He will also race cars, most likely in the Super GT series. He is particularly keen to do the Le Mans 24 Hours, too.

"Rossi wooed fans like they'd never been wooed before"

Pebble Beach marks the men from Del Monte

THE 70TH ANNIVERSARY OF THE original Pebble Beach road race was a central theme of this year's annual Concours d'Elegance at the celebrated Californian resort – albeit a year late after last year's Covid-enforced cancellation.

The first Del Monte Trophy race meeting took place on November 5 1950, using 1.8 miles of public roads around Pebble Beach (although the course was subsequently extended to 2.1 miles). It cost \$15 to enter and attracted a blend of Jaguars, Allards, MGs and locally built specials. Future world champion Phil Hill was one of the inaugural



victors, heading fellow Jaguar XK120 racer Don Parkinson to win the 25-lap Pebble Beach Cup. The town's first concours took place simultaneously, but was largely secondary to the racing.

Hill became a regular competitor at the event and won the feature race again in 1953, this time at the wheel of a Ferrari 250 MM Vignale Spyder, but the track did not operate for long. The final meeting took place in April 1956, Carroll Shelby winning the headline event in a Ferrari 750 Monza.

Ernie McAfee died during the same race, however, after crashing his Ferrari 121 LM into a tree, and safety considerations dictated that the circuit would not be used again – a decision that led to the creation of the Laguna Seca Raceway about 15 miles from the location.

The Del Monte Trophy Race Group attracted a field of 30 period-correct cars to celebrate the anniversary, with a mixture of themed displays and, as has become tradition, a race at the Rolex Monterey Historic Reunion meeting at Laguna Seca.



Button heads up revived Radford

JENSON BUTTON HAS DIVERSIFIED HIS POST-F1 career by forming part of a consortium dedicated to bringing back one of Britain's coolest 1960s coachbuilders – Radford.

Button has got together with TV presenter Ant Anstead, car designer Mark Stubbs and business advisor Roger Behle to bring back the famous name, with the firm's first project being the Lotus 62-2 (based on the 1960s Lotus 62 sports racer), which was recently unveiled during the Quail Lodge show at Monterey Car Week. Only 62 cars will be made in total, with

just 12 in the more powerful 'Gold Leaf' specification. Prices...? Probably best not to ask.

Radford was founded in 1948 by Harold Radford and built its name creating bespoke Bentley and Rolls-Royce offerings. Among its designs were the Bentley Countryman and the fibreglass bodywork for the Ford GT40. It then designed a string of custom Minis for the likes of The Beatles and Peter Sellers. The firm went into liquidation in 1966. Button said: "Radford carries such prestige and magnetism for anyone with an appreciation of cars."

KRISTEN FINLEY & OLIVIA WATKINS FOR BETTMANN





All five Del Monte Team
winners are featured
in the exhibition, which
also includes a display
of the team's racing
history.

**"McAfee's
death in
1956 led to
the creation
of Laguna
Seca nearby"**



Tributes for killed volunteer

BRITISH FORMULA 1 DRIVERS LED TRIBUTES to a volunteer race marshal who died when hit by a car at Brands Hatch in August. Robert Foote, 67, was killed when a competitor spun off the track in the British Automobile Racing Club (BARC) club car championship race. Racing was cancelled for the remainder of the day.

Lewis Hamilton posted a message on Instagram: "Devastated to hear of the passing

of a marshal at the Brands Hatch circuit. These volunteers are what makes racing possible, they are heroes. My heart is with his family."

McLaren's Lando Norris also paid tribute, posting: "Heartbreaking. We wouldn't be able to do what we do without marshals. They're the heroes of our sport. My thoughts are with the family and friends of those involved."

Williams' George Russell said: "So saddened to hear that a volunteer marshal lost their life. These men and women give up their time to allow us to do what we love. My thoughts are with their family, friends and fellow marshals."

A JustGiving page set up to raise £10,000 for those affected by the incident had reached over £54,000 at the time of going to press.

F1 cars await loading onto a Bristol Britannia at Heathrow in 1963, en route to the US GP



Volunteers needed to save "Whispering Giant"

THE BRISTOL BRITANNIA XM496 Preservation Society is appealing for volunteers to help save the sole surviving RAF Bristol Britannia long-range transport aircraft. Of 85 Britannias built, 23 were ordered by the RAF and delivered in 1959-60. Celestial names such as *Arcturus*, *Sirius* and *Vega* were given to each of the heavy lifters. XM496 *Regulus* (the brightest star in Leo) has been based at Cotswold Airport in Gloucestershire - the former RAF Kemble - since its retirement in 1997.

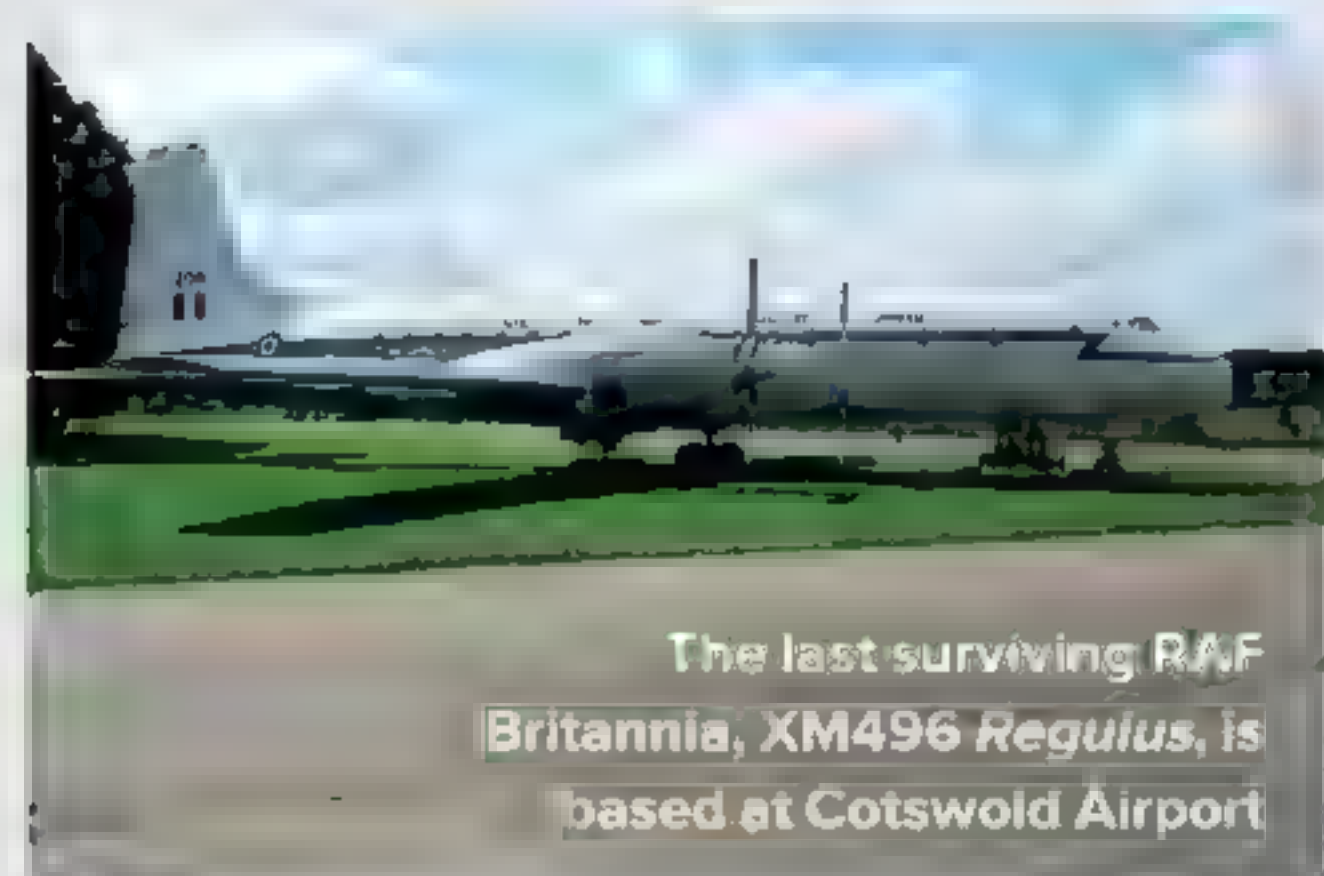
"We seek to recruit engineering and non-engineering volunteers to train up and

eventually replace the original volunteers who have made preservation possible since 496 was saved from being scrapped," said group PR committee member Brian Weatherly. "Jim Brown is the lead engineer. He started his association with the Britannia as a ground engineer at RAF Lyneham in 1959. Jim will classify each person according to their individual skills and availability."

The turboprop Britannia earned its nickname "The Whispering Giant" due to its smooth flying and quiet interior noise but with jets revolutionising long-distance travel from the late '50s, BOAC retired its Britannias in 1965 after just eight years of service. The RAF continued to use the type until 1975.

Regulus was used by the RAF to ferry artefacts between Egypt and London for the British Museum's *Treasures of Tutankhamun* exhibition in 1972 and was later operated privately in Cuba and Africa. By 1997, it was the only Britannia left flying in the world.

Register interest at xm496.com or visit an open day at Cotswold Airport, which take place every Saturday until September 25.



The last surviving RAF Britannia, XM496 *Regulus*, is based at Cotswold Airport

Brands queue up to exit Formula E

IS FORMULA E BEGINNING TO LOSE its shine? After early success in attracting big name brands, many manufacturers have now formed a disorderly queue to leave the electric single-seater series.

First up for the exit is Audi, which gave notice of its withdrawal ahead of the recent season finale in Germany. It will instead pour the electrical know-how gained from FE into its new all-electric Dakar project, plus its return to Le Mans with an LMDh programme from 2022.

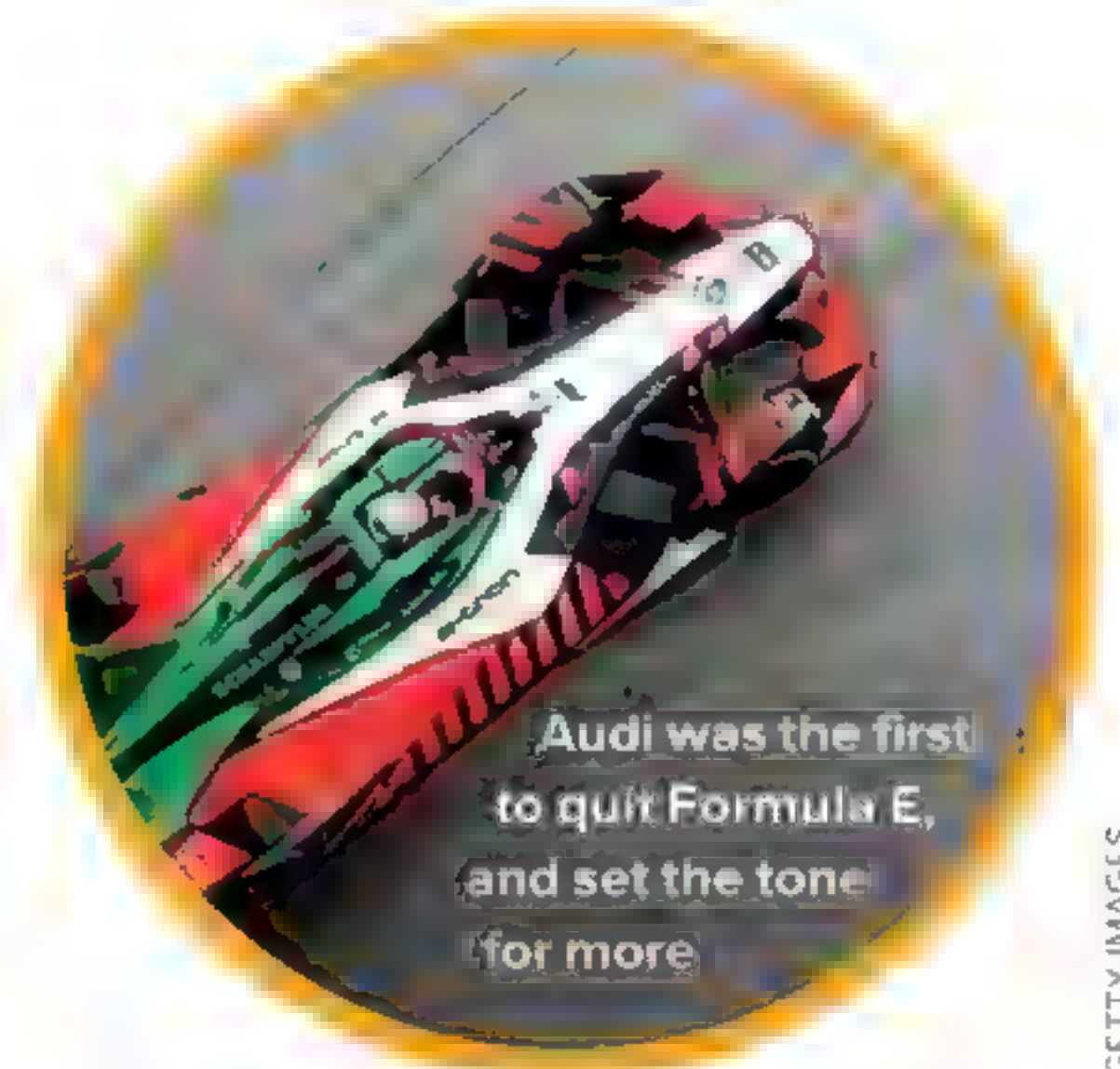
Almost as soon as Audi's shockwave had subsided, BMW followed suit, claiming it would end its involvement to better focus on building and developing electric road cars. It also happens to have an LMDh project on the go, aimed at 2023.

And now Mercedes - fresh from winning both the drivers' and manufacturers' 2020-21 Formula E titles with Nyck de Vries - is also tipped to turn its back on the championship, with an announcement expected soon.

Formula E will switch to a new Gen3 car for the 2022 season, giving manufacturers a natural window to reset.

While the big three German brands are off, it also leaves question marks against Porsche - another LMDh entry - but its motor sport boss Fritz Enzinger said: "Porsche is convinced of the unique concept and stage in order to strengthen electric mobility and to reach another audience and bring our electric powertrains from the track to the road."

Jaguar Land Rover has already committed to FE's new Gen3 era.



Audi was the first to quit Formula E, and set the tone for more

GETTY IMAGES

www.Martin Allen.art



Cobra! Oil on canvas 24" x 36" plus limited edition A2 signed prints by artist Martin Allen

About the Artist

Martin Allen is a London based artist. Martin came to oil painting through a circuitous route, having drawn for most of his life and being largely self-taught he was eventually re-introduced to oil painting as a preferred medium to create his varied and diverse work. The methods he uses to paint are classic ones, with layered paint applications rounded off by oil glazes. These create, add depth and harmonise colours. He is a member of the GRRC and has shown numerous times at Goodwood, The Affordable Art Fair and others, been a finalist at the 'London art Biennale 2019', alongside various commissions including work for the BP Shipping collection, and most recently Vogue Magazine.

To find out more about his art and enter a free competition to win a signed limited edition print simply visit:

martinallen.art/motorsport

Enter your email and you will be entered for the competition plus receive a discount voucher for your first purchase.

Martin will be showing some *new original art* at the Goodwood Revival 17th - 19th September - inner circuit stand 124.

For limited edition prints, commissions and availability of original paintings email:

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MARK HUGHES

"The rapidity of Ferrari's recovery holds real promise for 2022"

LOOKING AT THE HALF-SEASON TO date as Formula 1 takes its summer break, Ferrari is the most improved team from last year - albeit from a base of 2020 being its worst for 40 years as it suffered from the blow of technical directives which severely curtailed its horsepower.

But the rapidity of its recovery, despite being hampered by the limited scope of permitted car changes between last year to this, holds real promise for the 2022 re-set.

Team boss Mattia Binotto recently summarised 2021 progress. "In the first 11 races we have achieved 163 points. It was 80 points at the same stage last season... That 83-point increase is the most of the entire grid. If we look at pure performance in qualifying, last year on average we were 1.4sec off pole. Today we are 0.7sec off. Still a distance, we are fully aware of that, but good improvement.

"Pitstops. I always consider a good pitstop below 3sec. That may sound a high number but in strategy it's more important to be consistent, not only fast. Because what is destroying a race is sometimes a problem and you are stopped for 4.5sec or 5sec or 6sec. Eighty-four per cent of our stops this year have been below 3sec. Last year 48%. Last year we were eighth in the pitstops; today we are P2."

The power deficit to Mercedes last year, under new late-notice technical directives regarding fuel flow, was in the order of 65bhp. A combustion chamber more optimised around the new interpretation has reduced that to more like 25bhp this year. That and very good low-speed handling traits have given Charles Leclerc a car good enough for him to score a brace of pole positions and for Ferrari to be in a long-running battle with McLaren for third in the Constructors' Championship.

But there's more to come - in the remainder of this season - from the power unit. The regulations allow one change to each of the six major elements (internal combustion engine,

turbo, ERS-h, ERS-k, battery and control electronics) from last year to this. But there was no stipulation about them having to all be introduced together and Binotto has revealed that on the 2021 engines used to date, some of those elements are still to 2020-spec and that the subsequent ones will be to a higher spec, which he expects will bring significant performance gains.

Last year's car didn't just suffer a bigger power deficit than the current one but was aerodynamically flawed too, with a particularly intractable rear end stability limitation. There was nothing half-hearted about the way Ferrari attacked that problem despite this being the final year of these technical regulations - but part of that solution will definitely feed into the 2022 car.

It made a new gearbox casing allowing it to totally reconfigure the rear suspension in a way that replicated what Mercedes had done last year in sweeping back the wishbones to create more space around the diffuser for the aerodynamicists to exploit. Within the pandemic-inspired limitation on changes it was ingenious in itself, but in tilting the gearbox upward and thereby raising the differential height it also created yet more volume in that area.

The 2022-spec cars will feature two big venturi channels, one each side, running from the front of the floor to the back, converging in the centre, so that a greater proportion of the car's total downforce is generated by the underbody, so as to produce a cleaner wake. With this layout, it will be even more advantageous to raise the diff height, despite the increase in centre of gravity height it brings.

David Sanchez is chief engineer of performance and the man largely responsible, when he was chief of aero, for the highly influential 2017 Ferrari with several new aero

features now almost universal. He's a creative force and his mantra is usable downforce, with an aero map that makes the driver comfortable enough to extract performance from himself.

"You need downforce, that's obvious," he says, "and at the moment with these regulations you can create a lot of downforce, but you need to make sure the car can sustain it. The aero is getting ever-more complex so it's more prone to break down. Essentially the philosophy is make sure the downforce is very consistent, gives confidence to the driver that it's not going to bite in any way - and then we should have a pretty solid platform.

"For next year aerodynamically the cars are dramatically different from current ones but fundamentally we are looking for similar things - but achieving those in a different way. Everything we learned and developed in the last few years is still very valid.

"You always want more. The budget cap is making us think where you really want to put the priority. A good thing is we've been developing in the last few years the necessary tools to do this and so I think we're in a good place. You have to be pragmatic in how you use resource, you need to be focused on priorities.

Without the cap anything which makes the car faster, you take. Now with the cap you need to think about, with the resource you have, what is the top priority for improvement, what will give the biggest return. It also puts a lot more focus on the early phase of the car because next year if you put on a track a car which has a large weakness it's going to be a pretty uphill battle to recover."

How will Ferrari fare in the 'great reset'?

Since he began covering grand prix racing in 2000, Mark Hughes has forged a reputation as the finest Formula 1 analyst of his generation. Follow Mark on Twitter @SportmphMark

"The budget cap puts a lot more focus on the early phase of the car"



MAT OXLEY

"KTM's progress in the most challenging class in motorcycling is a miracle"

HONDA CONTESTED ITS FIRST MotoGP (née 500cc) world championship in 1966 and is now contesting its 42nd season. Suzuki arrived five years later, dipping in and out according to management whim and wallet, its experience now totalling 44 seasons.

Ducati also raced its first MotoGP event in 1971, but soon withdrew and only returned in 2003, making a total of 21 years in the class. Yamaha started in 1973 and has so far completed 49 seasons. Aprilia has also been in and out, since 1994, and is currently contesting its 16th season of MotoGP.

KTM commenced its first MotoGP campaign in March 2017. Its RC16 MotoGP bike achieved its first victories last year and has won more races this season. The company's progress in the most challenging class in motorcycling has been something of a miracle.

The Austrian brand has been around since the 1930s but not until the 1970s did the company enjoy racing success, in motocross. Since then there's hardly an off-road world title that KTM hasn't won, from motocross to supercross and from enduro to rally.

KTM contested its first road racing grands prix in 2004, in the 125cc class. Twice-MotoGP champion Casey Stoner scored KTM's first road race GP victory at Malaysia at the end of that year. Many more successes followed, in the 125cc, 250cc and Moto3 classes.

However, when KTM announced its intention to attack the MotoGP championship paddock insiders wondered if this might be a step too far for a relatively small company with no knowledge of the category.

KTM's RC16 MotoGP bike uses a 90-degree V4 engine, similar to those successfully campaigned by Ducati and Honda, and designed by former Porsche and BMW engineer Kurt Trieb, so at least KTM didn't tread too far into the unknown with the heart of its motorcycle.

KTM also timed its entry to coincide with MotoGP's introduction of a spec ECU, thus saving its engineers the immense task of building their own electronic control systems.

However, KTM chose to deviate from the norm in two hugely important areas of performance. It housed Trieb's engine in a tubular steel frame, while the rest of the grid used aluminium-alloy beam frames. And it fitted KTM's in-house WP suspension, unlike the Öhlins kit used by other manufacturers.

The opening race of 2017 gave KTM a good idea of the size of the mountain it had to climb. Riders Pol Espargaró and Bradley Smith finished 16th and 17th, taking the chequered flag more than half a minute behind the winner. By the end of the year they had done no better than a couple of ninth places.

"KTM's MotoGP library is nil," explained Red Bull KTM crew chief Paul Trevathan at the time. "Everything we do is trying to understand more and luckily we've got a group of guys who aren't scared to learn."

Over the next few seasons KTM changed engine specs (firing configuration, direction of crankshaft rotation and so on) and frame designs (mostly different geometry and revised stiffness) with dizzying frequency, helped along this road by Red Bull largesse.

And yet the results were slow to come - in 2018 one tenth place and a third at a rain-lashed Valencia were as good as it got.

Some pitlane experts suggested that KTM's chassis specification would forever hold the company back. One of the negatives of spec-tyre racing (MotoGP switched to spec tyres in 2009) is that the tyre supplier must create rubber that works for most of the grid, so if your chassis differs from the norm you may struggle to make the tyres work.

But KTM was not for turning. "The concept of this project is to make a MotoGP

bike with the same technology we sell at KTM - and our customers buy KTMs with steel frames and WP suspension," said team manager Mike Leitner.

By 2019 KTM's library of knowledge had grown sufficiently for the breakthrough: Espargaró finished sixth at Le Mans. Yet it wasn't until last year that the factory finally put all the pieces together. A heavily revised frame propelled the RC16 to its first victories, at Brno, with rookie Brad Binder, and at Red Bull Ring and Portimão, with Miguel Oliveira.

KTM's remarkable ability to accelerate around problems was proven again at the start of 2021. A pre-season change of front-tyre spec caused KTM's riders huge problems at the first few races but engineers revised the chassis to take Oliveira to second place at Mugello and victory at Barcelona.

It isn't only the company's engineering abilities that deserve admiration. The real heart of KTM's success is the philosophy within the entire racing group which seems to work as one, with none of the petty rivalries or jealousies that destroy some operations.

KTM racing technical director Wolfgang Felber understands the importance of communication at all levels. The engineering offices

surround the workshop area, separated by glass walls and doors, which encourage mechanics to visit the engineers whenever they have a bright idea. Because all great technology is ultimately human.

Five years ago very few thought KTM would worry the established names, but now the company is challenging for the MotoGP title. It's a unique story.

"The heart of its success is the philosophy within the group"

Mat Oxley has covered motorcycle racing for many years - and also has the distinction of being an Isle of Man TT winner
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DOUG NYE

“Roy Salvadori was a tough customer, Ken Wharton no softie”

THROUGHOUT RACING HISTORY we have seen clean drivers and dirty drivers, aggressive drivers, and timid ones too. Partisan – largely social media – outbursts plonked convenient labels on both the current drivers involved in the lap 1 British GP collision between Lewis Hamilton and Max Verstappen. Some equally (and quite properly) partisan team declarations then perhaps generated rather more heat than light.

Christian Horner of Red Bull’s initial claim that “everyone knows you can’t pass into Copse Corner” perhaps explains his greater success as a team director than he ever achieved as a racing driver...

Few of those most incensed seem to have recognised that Lewis Hamilton – a notably ‘clean’ driver – subsequently pulled off an almost identical manoeuvre into Copse to pass Charles Leclerc’s Ferrari for the lead. The difference, it seems, is that Leclerc ran wide onto the run-off area to let the Mercedes by without contact. More to the point, immediately after having done so, he latched back onto Hamilton’s tail as those two cars ripped into the Becketts complex. Had those cars been more equal, as could have been the case with Verstappen and his Red Bull, then Hamilton’s Mercedes could surely have been re-passed soon after.

As it was, which of those two drivers had more to lose upon that opening lap – World Championship leader Verstappen, or closest rival Hamilton? Self-evidently it was the Dutch boy. Matching still frames from the elevated camera of the cars’ approach to Copse Corner show that Hamilton’s lunge up the inside placed his car’s nose and front wings ahead of Verstappen’s eyeline. Regardless, Verstappen still turned in, contact made. Comparing that lap 1 image with the lap 52 freeze of Hamilton chopping inside Leclerc, and the Frenchman – with

much less to lose than Verstappen – surrendered to fight another day. In Verstappen’s case aggressive defence – which could probably have been followed by a clean re-pass – triggered Red Bull’s loss..

A previous celebrated Copse Corner collision involved two far less acceptably aggressive drivers. Roy Salvadori was a tough customer, Ken Wharton no softie. From what I know of them, Roy’s occasional barging tactics stemmed from a sense of self-confident superiority while Ken’s possibly stemmed from defensive inferiority.

On Easter Monday 1954, Goodwood’s Glover Trophy saw Wharton leading in a V16 BRM from Salvadori in Syd Greene’s new Maserati 250F. Roy grew frustrated by what he saw as Wharton’s baulking. So the last-lap inevitable happened, Ken veered, Roy nudged, Ken spun – and Roy rammed him. Ken recovered to limp his BRM to the line, winning in a car which proved so badly bent it was written off. Roy’s battered 250F lay wreathed in steam at Lavant Corner. He and Greene took the then unusual step of protesting Wharton to the stewards. It was all glossed over, but as Roy told me decades later, “Ken perhaps forgot there’s always another race...”.

Enmity simmered into 1955, when the Silverstone May Meeting’s International Trophy race saw Salvadori’s Greene-entered Maserati battle for the lead with Peter Collins’s BRM-entered disc-braked sister 250F. Roy was beaten. Ken Wharton meanwhile had lost time having his Vanwall’s throttle linkage repaired. After rejoining he was quick, not least on fresher tyres, and on lap 21 when Wharton tried to unlap himself by passing Salvadori into Copse, he was nudged onto the grass verge.

In hospital, Wharton told visiting track manager Jimmy Brown he “...took to the

grass when closing rapidly on Salvadori’s Maserati, and was unable to regain the track before colliding with one of the Jaguar distance boards”.

That was a 100-yard braking marker, which as BRDC secretary Desmond Scannell wrote to Vanwall principal Tony Vandervell was “...a metal sign, 2ft x 18in, mounted on wooden uprights anchored in concrete filled 5-gallon oil drums. They stand about 3ft in from the edge of the track and are portable to permit of the grass being machine cut.”

The Vanwall hit the drum, had its rear suspension and fuel tank ripped back, gushing fuel and the wrecked car careered to a halt amid a fireball from which Wharton tumbled with painful burns.

On June 13, 1955, Vandervell Products’ cost department sent a memo to director Fred Fox headed ‘Damage to Vanwall – Silverstone 7-5-55’, reading: “the costs available, calculated for insurance purposes

are: Gearbox Assembly 254/P, Total £1240 8s 7d; Rear Axle Assembly 254/H, Total £1412 0s 8d; Brake Assembly 254/T, Total £736 3s 3d” – making the overall total £3388 12s 6d.

“Outside charges are from invoices or quotations. VP Toolroom costs are for labour, on estimated times... plus 150% for overhead charges.”

Allowing for inflation, that 1955 total, which includes neither replacement chassis frame nor bodywork, today represents £91,500. According to Red Bull Racing, the Silverstone 2021 impact is costing £1.3m.

Hmm – Formula 1 inflation rates seem to be 13 times ahead of HM Treasury’s. So just be grateful for small mercies?

“Formula 1 inflation rates seem to be 13 times ahead of HM Treasury’s”

Doug Nye is the UK’s leading motor racing historian and has been writing authoritatively about the sport since the 1960s



ANDREW FRANKEL

"The concours condition Nissan Bluebird was absolutely robbed of a prize"

U NSURPRISINGLY MY FAVOURITE events of the motoring year take place at Goodwood, but not far behind is the Festival of the Unexceptional, held this year at the end of July at Grimsthorpe Castle in Lincolnshire, and whose Concours d'Inelegance it was once more my pleasure to help judge.

As a business case the festival looks utterly hopeless: a show for cars no one cared about even when new and whose few and limited abilities have been rendered entirely irrelevant by the passage of time.

But I think this is actually key to its appeal, because it speaks to the somewhat perverse quality of human nature that the more unexceptional the cars, the more the public wants to see them. And as a judge it is always strangely uplifting to talk to their owners, hear their stories, look at their cars and goggle anew that they have even survived (the cars, not the owners) for this long.

There are no hard and fast rules for judging. It's done by gut feel and rightly so, but my guiding criteria is the car must have been utterly unexceptional when new: it is not enough for it to have been cheap or somehow become regarded by history as rather ordinary.

So how my friend Simon Hucknall thought he stood a chance of winning anything in his lovely R registration Fiat 128 that's been in his family from new escapes me. Great car then, great car now so, in these terms, an also-ran at best. The same went for the Audi 100 Avant, the original V6 Ford Mondeo and a Renault Espace. Each might win something somewhere, but not here.

As for me, I failed to argue the case for a Triumph Acclaim, a really pretty mediocre car made far worse by the rare addition of a three-speed Triomatic (geddit?) automatic gearbox. And the concours condition Nissan Bluebird was absolutely robbed of a prize. I think when this business is finally done with me, of all the

millions of words I will have written in pursuit of a living, I expect no two phrases will ever have made more unlikely bedfellows in the same sentence than 'concours condition' and 'Nissan Bluebird'.

The runner up was a Peugeot 106 upon which I won't dwell because I thought it far too capable to earn my vote, but the winner? We judges did ourselves proud. Because it wasn't just a 1989 Proton 1.5 GL in immaculate condition, but one of just 201 'Black Knight' special edition cars, of which it is perhaps unsurprisingly the sole survivor.

The Black Knight came complete with lurid orange side decals of said nobleman in what I couldn't help noticing was actually shining white armour, twirling a sabre of impressive proportion while mounted upon a fine black charger. The logo is reprised on the wheel centres with a thick rubber spoiler on its boot lid to just hint at the potential of the 85bhp motor under the bonnet.

Who needs exterior mirrors you can adjust without first lowering the hand-wound windows when the Black Knight has your back? I started fantasising about conversations from the period: "The traffic is bad, it's five miles to Safeway, it's starting to drizzle and there's a medium amount of shopping to be done. Only one car could possibly cope with a mission like that: time to fire up the Black Knight!" At which stage I, as are you now, started questioning my own sanity. If we find a more worthy winner in next year's Festival of the Unexceptional, I won't be impressed, I'll be astounded.

FORGIVE THIS COMING FROM THE 'TOLD-YOU-SO' department but it's so rare I get anything right I'm going to briefly abuse the privilege of having this page to have a little crow about something.

Briefly, when Aston Martin released details of its heavily revised production-specification Valhalla hypercar I wrote a piece for *Motor Sport's* website detailing the new car and expressing surprise only at the fact it had not said how many it would make. Specifically I said, "£600,000 is a vast and possibly unprecedented amount to ask for a car with no upper limit to the numbers built. I feel it will scare off an entire constituency of potential prospects who like to put such chattels under a cover in a shed and watch them appreciate." I suggested that 950 units - the car's power output in PS - might be an appropriate cap to put on production.

Well blow me down if there hasn't been a change of heart. Because now Aston Martin says it will only build 999 cars and do so over a two-year period. Now, as I also happen to know, the company never thought it likely it would build more than 1000 units so what has

been achieved here is to confer a degree of exclusivity the car never had before without having to sacrifice any cars to do so. The result, I am sure, is that by stating in public that production will be limited, Aston Martin will sell more cars not fewer, and provide each one with far better residual prospects than would ever have been possible were it simply to

be perceived to be a standard production model like any other, albeit at more than twice the price.

So yes, I didn't quite guess the actual number that will be produced, but it's more than close enough for me to feel quite smug about it. And I'm pleased that Aston Martin has seen sense.

"Aston Martin now says it will only build 999 Valhallas"

A former editor of *Motor Sport*, Andrew splits his time between testing the latest road cars and racing (mostly) historic machinery. Follow Andrew on Twitter @Andrew_Frankel



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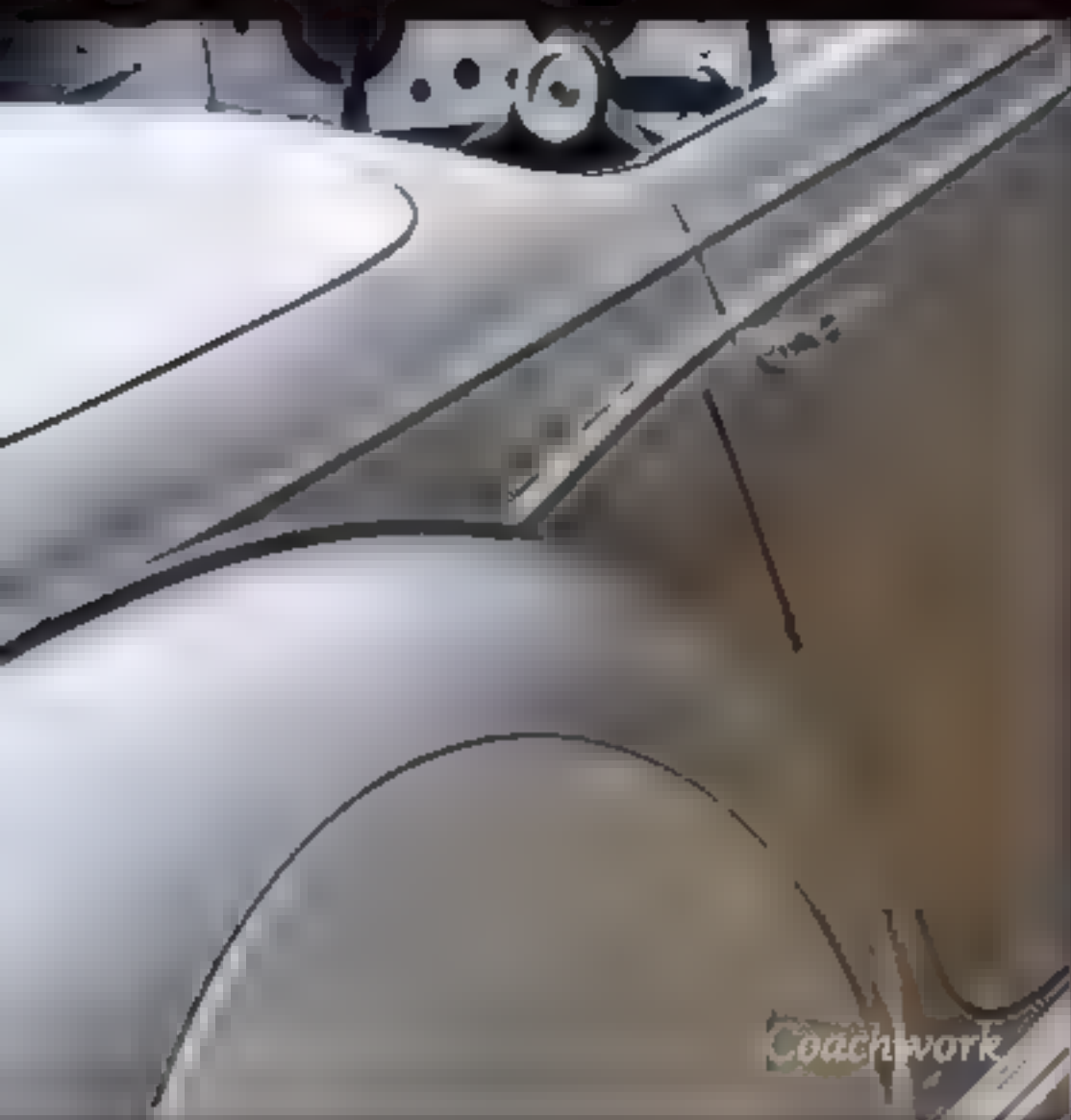
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Lewis Hamilton's fourth F1 win of the season, at Silverstone, closed the gap on Max Verstappen



Trackside view

With the new sprint qualifying format and a first lap clash at Silverstone followed by drama at the Hungaroring, the F1 faithful have been kept on the edge of their seats. Strap yourself in as we re-live a superb month

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"Lando Norris has something now that wasn't there before"

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Alonso plays the team game while Vettel turns litter picker

 British GP  Hungarian GP

All hot and bothered

The crowds were back, sprint qualifying made its debut and there were some spectacular knocks, says **Mark Hughes**

IN THE NARRATIVE OF THE championship, this is where it got a little ugly, at Silverstone where the long-predicted on-track clash between title combatants Max Verstappen and Lewis Hamilton finally happened and in Hungary where a misjudgement from Hamilton's team-mate Valtteri Bottas inadvertently took Red Bull out of contention.

There was an intriguing backstory to it all, a case study in how the competitive paranoia built by the close contest between Red Bull-Honda and Mercedes throughout the season had infiltrated all those organisations, just fuelling the fire. The contact between Verstappen and Hamilton at Copse Corner on the first lap of the British

Grand Prix, which put Verstappen into a massive 51g impact with the barriers, was the almost inevitable crescendo to those building tensions.

It didn't stop there, of course. Red Bull was furious about a Silverstone damage bill it estimated at £1.3m, which in the era of the cost cap is money that cannot be spent on making the car faster. It lodged with the FIA a petition to review the incident, which was heard during the Hungarian GP weekend and thrown out. It was against that backdrop that the Bottas incident then incurred yet more Red Bull expense - and a destroyed power unit.

First, there's the story of how and why the two teams are so closely competitive this year after seven seasons of Mercedes

domination. That's partly to do with the great work done by Honda in its final season of F1, determined to go out on a high, and that of Red Bull in fully nailing the potential of its high-rake aero concept. But only partly. It's also to do with the regulation downforce-reducing tweaks brought in for '21 which ostensibly were to protect the Pirelli tyres, but which specifically hurt the low-rake Mercedes concept. There's a belief at Mercedes that these regulations - especially the cutting of the diffuser strakes and rear brake ducts - were targeted at them, in the interests of a closer championship. Even if that's true, it's not something Red Bull has much sympathy for, given how regularly their wings were clipped by regulation in the pre-hybrid era of Red Bull domination.

After a difficult start to the season Mercedes had managed to massage its car into reasonable competitive shape but was somewhat frustrated to find in the wind tunnel that there was no great development potential in it under these regulations. Its concept was fundamentally incompatible with the regulation restrictions around the rear of the car. The Red Bull aero team, by contrast, was finding its car highly responsive to further development. The France-Austria series of races, where Verstappen won three races in three weekends, was particularly disheartening for Mercedes. There was a step change in Red Bull-Honda's performance there. But was it Red Bull? Or was it Honda?

The car featured major aero upgrades at all three of those races. But in France the power units had been replaced for the first



Business as usual at a full-on day at Silverstone with the fans packing in across the weekend



A day after the inaugural Sprint qualifying, Verstappen and Hamilton lined up at the front of the grid. Below: sprint winner Verstappen, with three points earned



time too, with a permitted reliability upgrade around the turbo. For the first time a Red Bull was going through the speed traps faster than a Mercedes. But at Silverstone and Hungary, things suddenly reverted to how they'd been. Aerodynamic drag muddies the waters of trying to deduce horsepower from GPS traces but Mercedes was suspicious Honda had been pulled back from its recent gains and therefore why? Honda was angered at such insinuations and was suspicious that Mercedes had made gains from Silverstone.

In the myriad of factors that produce a lap time at a given moment there is so much ambiguity and shifting of relative importance that it forms the perfect environment for paranoia to thrive. At Silverstone, Red Bull used a bigger rear wing than Mercedes. It was slower at the end of the straights but faster at the start of them. The time taken to get from the beginning to the end was very similar. The Red Bull was faster through the slow-speed sections and overall appeared to have a small edge - despite this being a circuit which should have been well-suited to the lower drag of

"If Hamilton couldn't pass by Copse, he wouldn't see the Red Bull again"

the Mercedes concept. But this was the first weekend of 'The Sprint', a 17-lap race on Saturday, the results of which determined the grid for Sunday's main race. The grid for The Sprint was formed by a conventional qualifying session held on Friday - and in this session, for the only time in what was a scorching weekend, the track temperature dropped into the mid-30s. Red Bull had taken some camber out of the front wheels to protect the vulnerable left-front and as the temperatures dropped into Q3 suddenly Verstappen's front tyres weren't coming up to temperature. The resultant understeer lost him pole to Hamilton's Mercedes.

At every other point in the weekend the Red Bull appeared slightly faster. In The Sprint Verstappen won the start, fended off the Merc for the first few corners, pulled out a gap and cantered to an easy win, thereby putting himself on pole for the British Grand Prix.

On that first lap of the sprint, Hamilton had briefly looked at the outside at Copse but thought better of it and had inwardly cursed that he should have tried for the inside. He filed that thought away ready for

Sunday. Because if he couldn't pass Verstappen before Copse, he likely wouldn't be seeing him again all race. Both understood that simple logic but there seemed more than just that behind the intensity of their duel as the lights went out on Sunday.

Verstappen took to the Stowe exit kerb to remain in front at the start, tyres almost touching with Hamilton as he rejoined, their jinking and jostling continuing on the run down to the Village loop, through there and onto Wellington straight. They were very aggressive with each other down that straight, wheels almost touching again as Verstappen on the inside refused to be crowded out for the approach to Brooklands where, to a roar of approval from the crowd, Hamilton was momentarily ahead but on

It's gonna cost you...

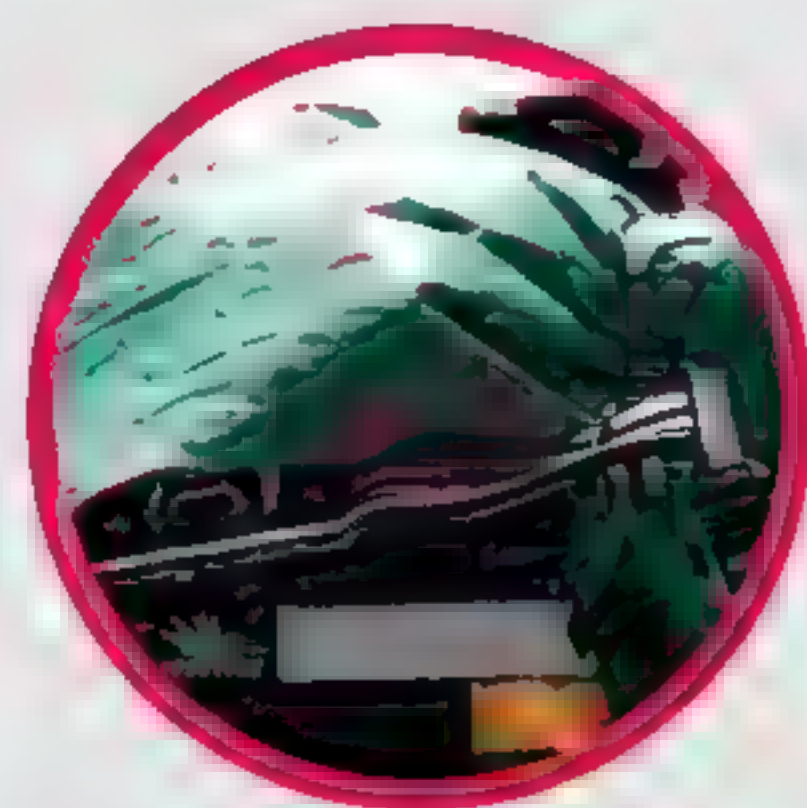
While prangs wreaked havoc, Formula 1's team principals reached for their calculators and vented their anger

The car-damaging incidents at the two successive rounds of the Formula 1 championship, Silverstone and the Hungaroring, put damage costs very much in the news in this era of F1 cost caps. Any money spent on damage repairs is money not spent on improving the car. For many teams, this has always been the case. But in the past accident damage made no dent on the development programmes for the top teams. That's no longer the case and, as such, it's become a controversy.

Red Bull was particularly hard hit, with Verstappen's 5g impact with the Copse Corner barriers at Silverstone – after tangling with Lewis Hamilton – costing what team principal Christian Horner reckons was £1.3m-worth of damage (*inset, above right*). The team then suffered a further heavy damage bill to both its cars in Hungary, triggered by a first corner error from Mercedes' Valtteri Bottas. At both races there was also accident damage to

Honda power units, which may have turned out to be terminal, potentially triggering penalties later in the season.

"It's hugely frustrating for Honda as it's not due to reliability," said Horner, "it's because of accidents that



we haven't caused. So they're feeling the brunt of this as well as we are on the chassis side. It's not to be underestimated on the cost cap side. It's something that does need to be looked at because in a cost cap environment, it's brutal... I think we need to revisit this with the FIA as it's something that can affect all teams, not just Red Bull."

He was backed up in this by Ferrari's Mattia Binotto, speaking after Charles Leclerc was taken out – also at the likely cost of a power unit – by Lance

Stroll in Hungary. "Our damages for the half-season are €2.5m [£2.1m]," he said. "Some of that we have done ourselves. But if there is a guilty driver, should the cost of that accident be exempt from budget cap? It's an important point, though it may be difficult to police."

Smaller teams aren't sympathetic to that cause. McLaren's Andreas Seidl, for one. "In the end, it's part of the game we're in – it's down to us to manage the budget we have. I don't see that it affects anything of our plans. It is quite simple and straightforward. At the beginning of the season, based on the experience of previous years, you simply have to account for certain crash damage per year. It's the same for everyone."

"I think we need to just be able to live with it," said Haas' Guenther Steiner. "We need to budget for it and be flexible enough; that's just good management. If all of a sudden we have less crashes, do we bring the budget cap down again? It's all just a part of racing."

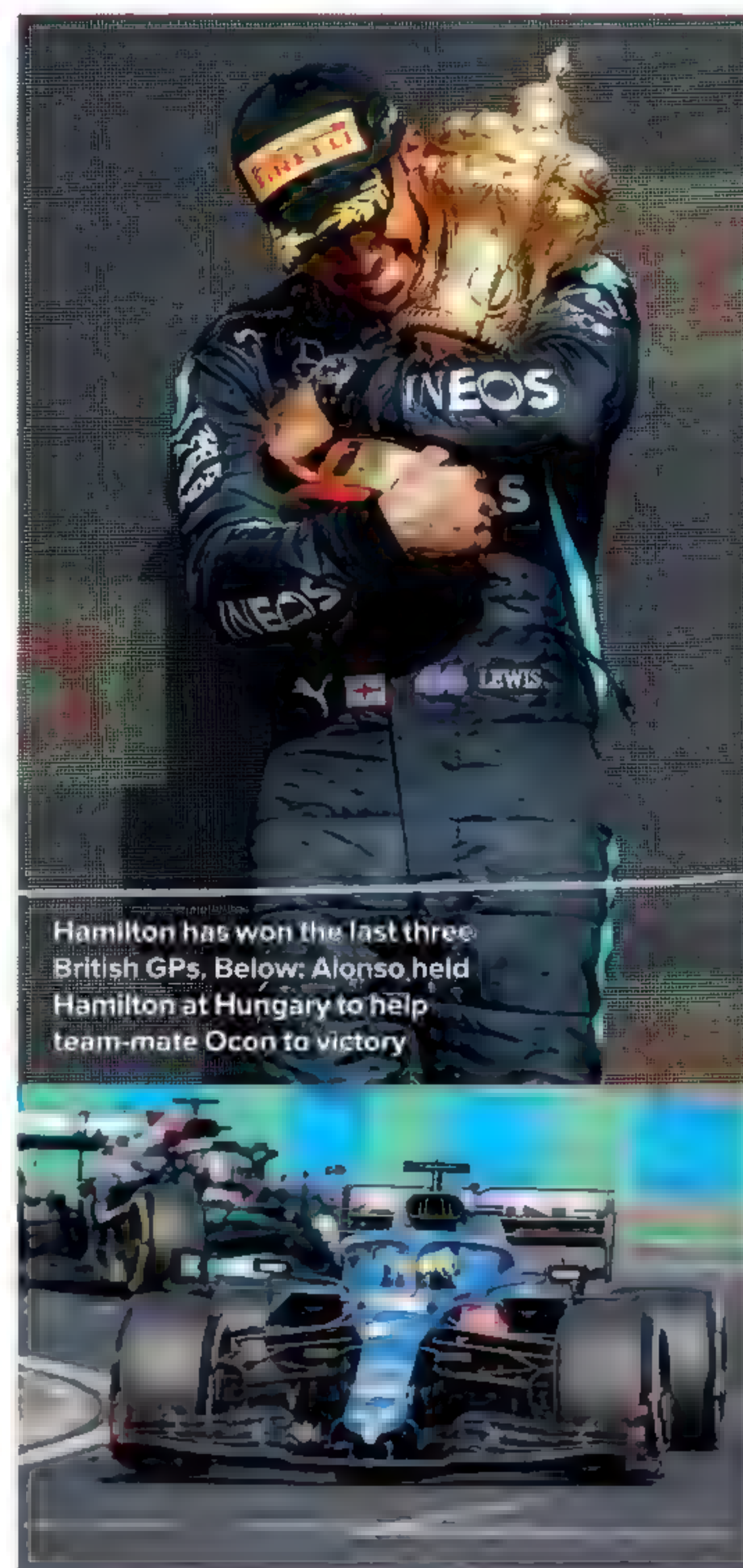


the outside and forced to concede. There was a lot of emotion in this dice. The sort that can influence judgement.

Mercedes knew that the Honda ERS would derate through Woodcote, as they had observed it doing all weekend and Hamilton therefore knew this was going to give him an opportunity into Copse. This time he sold Verstappen the outside dummy before sweeping across to the inside. They were approaching a 190mph seventh-gear corner with neither prepared to back down. Because of the speed profile of the circuit layout, this was just the point at which their building grudge match through the season had brought them together.

Hamilton had backed out of it at Imola and Barcelona, but was resolved not to this time. His championship challenge had changed since then. He was now in the underdog role and had less to lose. He was also on the inside, so had less to lose from that too. He went deep into there, deeper than Verstappen – who took the corner without even a lift of the throttle, at an entry speed higher even than in qualifying when





on empty tanks - was expecting. Hamilton's left-front touched Verstappen's right-rear. So Hamilton won the restarted race (after getting by Charles Leclerc's Ferrari, which led all but the last two laps after opportunistically passing Hamilton during his incident) and Verstappen was taken to hospital for observation.

The recriminations lasted from Sunday evening at Silverstone into Budapest two weeks later. Budapest was an even tougher weekend for Red Bull than Silverstone. Not only was there the thrown-out appeal and yet more accident damage, but they weren't even quick. This was the least competitive showing from Red Bull in the season to date. Its car just could not be balanced in the scorching track temperatures of the weekend. It understeered on the soft tyres, oversteered on the mediums. It even had to go for a lower downforce rear wing into Saturday - and you never surrender downforce on this track with its long-

"Stroll hit Leclerc's Ferrari hard enough to take them both out"

duration slow and medium-speed corners - simply because the team had run out of front wing flap adjustment. Verstappen could qualify only third-fastest, 0.4sec adrift of Hamilton's pole.

Rain beginning 25 minutes before the start at least promised to randomise things.

It did so - but not in Red Bull's favour. As Hamilton led Verstappen away, Bottas bogged down from the front row and was instantly zapped by Lando Norris's McLaren. Bottas braked too late, locked up, hit Norris into Verstappen and bounced himself into Sergio Pérez's Red Bull. A supplementary accident was triggered by Lance Stroll's

Bottas-like misjudgement on the brakes - and he hit Leclerc's Ferrari hard enough to take them both out. Pérez in trying to limp his damaged car back with fluid gushing from it destroyed the power unit. Leclerc suffered similarly. Verstappen's car was heavily damaged but still going. Hamilton was leading - but the order behind him was

an unusual one, courtesy of the carnage: Esteban Ocon's Alpine second from Sebastian Vettel's Aston Martin.

This would be the order of the restart after a half-hour break to clear up the mess, with Verstappen down near the back in a cobbled-together car completely missing its right-hand barge board. But which tyres for the restart? The rain had stopped and the sun was drying the track rapidly. It would be a safety car-led formation lap to a standing start from the grid. Surprisingly, everyone opted for intermediates. And everyone realised their error as soon as they took to the track, which was easily ready for slicks. There were sure to be many drivers opting not to take the grid but to pit immediately for slicks.

Which presented a particular dilemma for Mercedes and Hamilton. Being the first garage in the pitlane, with Hamilton sure to be followed in by a queue of cars, he would surely lose many positions before he could be released from his pitbox. Mercedes preferred not to risk it, take the grid start and come in the following lap. That's what

Word on the beat

Speculation mounts about team changes

● **George Russell** conducted tyre testing for Mercedes at the Hungaroring in the week after the race at Budapest. He has tested for the team here twice before and on this occasion it was ostensibly to try out Pirelli's 2022-spec 18in tyres, but it increased speculation that he will be replacing Valtteri Bottas.

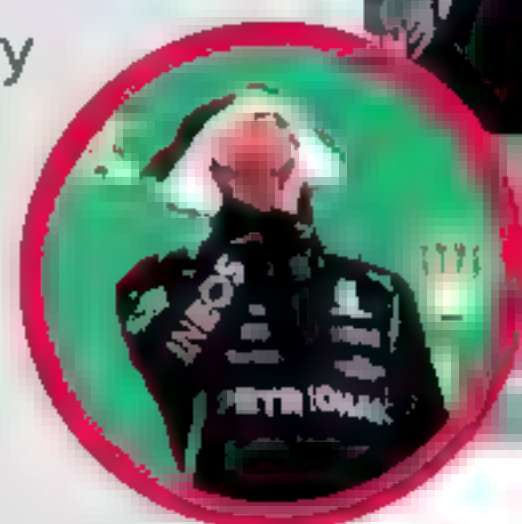
● **Lewis Hamilton**, *inset*, who contracted Covid last year, reported post-race dizziness in Hungary and said, "Everything got a bit blurry on the podium. I've been fighting all year, really, with the health, and it's a battle... I think it is lingering."

● A new documentary, **Schumacher**, is to be shown by Netflix on September 15. It has been made with the full co-operation of Michael's family and includes interviews with wife Corinna, brother Ralf and father Rolf as well as those involved in his career.

● **Red Bull's** petition for further sanction of **Lewis Hamilton** in addition to the time penalty he received at Silverstone was thrown out by the FIA stewards who found that, contrary to the requirements for an appeal, the team was able to offer no new evidence "unavailable to the parties seeking the review at the time of the decision concerned".

● **Aston Martin** both appealed and requested a review of **Sebastian Vettel's** - *inset, left* - disqualification from second place in the Hungarian GP. These are separate processes.

● Chinese **Alpine Academy** driver and F2 frontrunner **Guanyu Zhou** is among those being mentioned in connection with a **Williams** drive next season. There is currently no place for him in the Alpine team, which has long-running contracts with Esteban Ocon and Fernando Alonso. But Renault is keen for him to gain F1 experience.



Hamilton did - but he was the only one! So the race started with a single car on the grid; everyone else lined up at the end of the pitlane, on slicks. Hamilton couldn't pull enough time on the pack on that opening lap and came out a solid last after his stop.

Ocon now led the race from Vettel - and the Williams of Nicholas Latifi, which had jumped to fifth through the Turn 1 chaos, then made up two further places thanks to Williams being at the far end of the pitlane. The Williams was around 0.5sec a lap slower than the Alpine and Aston, allowing Ocon and Vettel to pull away from the field as Latifi held back those who may have been able to challenge them, such as Carlos Sainz and Fernando Alonso.

Hamilton didn't really begin making good progress through the field until after he'd been brought in for fresh tyres, stopping one more time than the others giving him the required speed difference to begin passing cars. As Ocon and Vettel continued their tense duel - with Vettel losing an opportunity to undercut in front by a sticking left-rear wheel which cost 1sec - Hamilton was on course to catch them comfortably before the end. Then he came upon his old friend Alonso in fourth place.

"Vettel was disqualified for being unable to provide a fuel sample"

"I could see the situation myself," said the Alpine driver. "I could see on the big screen Esteban was leading, Lewis had been catching at 2sec a lap, so I knew he could be up with them unless I could hold him off." In that way Alonso helped secure his team the victory. His thrilling wheel-to-wheel dice with Hamilton lasted for 11 laps before the Mercedes finally found a way by. Having worked out an offset line through the final turn, which allowed him to be closer and make better use of DRS. Hamilton was able to repeat that on Sainz to take third, taking the flag virtually

touching Vettel's second-placed Aston as Ocon took the first grand prix win of his career - the first for the Enstone team since Melbourne 2013, two name changes ago. Vettel was subsequently disqualified for being unable to provide a one-litre fuel sample. Williams scored its first points of the season, with Latifi and George Russell eighth and ninth across the line.

Amid the delighted celebrations at Alpine, Toto Wolff tried to apologise to Christian Horner for the Bottas incident but the Red Bull boss didn't want to hear it, asking if the apology might stretch to paying the damage bill. Tensions remain high. ●

GRAND PRIX PHOTOGRAPHY: GETTY IMAGES

#GODO



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When you think about it, the exquisite C63 Sealander Automatic is an outlier. Hand-made in Biel, Switzerland's watchmaking capital, it's powered by a tried-and-tested automatic movement. The polished dial boasts finessed and chamfered indexes, plus generous amounts of lume for low-light timekeeping. It's also waterproof to 150m. You'd expect a watch this advanced to sell for thousands of pounds. And yet the C63 Sealander Automatic retails for less than £600. The world's gone mad, hasn't it?

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Hamilton reels in Leclerc

But Ferrari compromised by fuel at Silverstone, says Mark Hughes

AT SILVERSTONE, AS SOON AS LEWIS Hamilton had a) lost the lead to Charles Leclerc's Ferrari as his momentum was checked by his collision with Max Verstappen and b) incurred a 10sec penalty for the incident (to be taken at the tyre stop), his race strategy was largely predefined.

With Hamilton unable to pass Leclerc on the restart, and with Leclerc setting a pace quicker than the cars Hamilton was trying to clear, Mercedes needed the Ferrari to stay out there leading, with Hamilton just following. The longer they could do that, the more time they'd pull out on the pack and therefore the fewer places Hamilton would lose when he took his 10sec penalty in the pits.

Leclerc wasn't the priority at this point – how many cars might jump Hamilton when he took the penalty was the first order of business. They would have to save the fight with Leclerc for

later. Because fighting past Leclerc – who would always have re-passed at the stops anyway, due to the penalty – would be at the expense of tyre life, enforcing an earlier stop for Hamilton before he'd pulled enough time out on the pack.

Five laps would be a typical reduction in tyre durability for driving all-out in a wheel-to-wheel dice when the limitation was wear of the front-left. If Hamilton had engaged Leclerc in battle and overtaken and been forced to pit five laps earlier, he'd likely have rejoined sixth after his penalty. Seven laps earlier and he'd have been eighth upon rejoining. As it was, he was able to rejoin fourth.

Nor did Mercedes want to apply undercut pressure to Leclerc – for if he responded and Hamilton then stayed out, Leclerc's undercut boost would have put Hamilton even further behind the Ferrari than if they had just followed at a discreet

distance and given him a longer stint, allowing both to pull time on the pack.

This was the logical compromise to Mercedes' conundrum. Hamilton stayed out for as long as his front-left tyre still had life in it. Which was lap 27, with 25 still to go. Leclerc, not needing to immediately respond to the undercut because of Hamilton's 10sec penalty, came in two laps later. Hamilton rejoined and on his fresh tyres was able to quickly pass Lando Norris's McLaren (which had stopped six laps earlier) and was eased past team-mate Valtteri Bottas, as co-ordinated by the pitwall. That put Hamilton 9sec behind Leclerc with just 12 laps remaining.

Now was the time to have that battle with the Ferrari which had been deferred in the first stint. Hamilton went into full attack mode and Leclerc, alerted by his team to the Merc's progress, also stepped up the

pace. But there was a complication in the Ferrari cockpit. He was very short of fuel. He could not run at absolutely maximum pace; he would have to lift and coast in some key places and let engine braking do the initial work. This was costing around 0.2-0.25sec of lap time.

Hamilton was now able to take chunks out of the compromised Ferrari: 1.1sec, 1.1sec, 1.1sec, 0.7sec, 1.0sec, 0.8sec, 1.0sec, 0.7sec, 0.8sec and 0.6sec on each subsequent lap until he was on its tail with two laps to go. This was the build-up to his taking the lead – ironically on the inside of Copse Corner. It had been a brilliant performance by Leclerc but the competitive comparison between the two cars was disguised by the tactical requirements of Mercedes in dealing with the 10sec penalty.

TYRE TACTICS

Lewis Hamilton started the British Grand Prix on medium tyres, opted for the same again during the red flag and switched to hard to attack in the second half of the race. Three drivers completed 33 laps on this tyre. Pérez posted fastest lap late in the race on soft tyres

C1
HARD



C2
MEDIUM



C3
SOFT



LONGEST STINT

RAIKKONEN ALFA ROMEO
OCOON ALPINE
RUSSELL WILLIAMS (33) LAPS

TSUNODA ALPHATAURI (30) LAPS

GASLY ALPHATAURI (6) LAPS

FASTEST LAP

(1.29.699) HAMILTON MERCEDES
(1.30.524) BOTTAS MERCEDES
(1.30.569) LECLERC FERRARI

(1.30.958) PEREZ RED BULL
(1.31.819) SAINZ FERRARI
(1.31.854) HAMILTON MERCEDES

(1.28.617) PEREZ RED BULL
(1.30.266) GASLY ALPHATAURI



JOHNNY HERBERT

“There is a maturity starting to appear in Lando which we didn’t see in the past”

LANDO NORRIS IS MY CHOICE FOR driver of the first half-season in Formula 1 this year. Why? Because there is a wonderful maturity that is starting to appear in him, and it’s a maturity we didn’t see in the past couple of years when he was teamed with Carlos Sainz Jr at McLaren. Now he is with Daniel Ricciardo there’s been a mental change – because they are not friends. Lando doesn’t want to be a friend and that’s the right attitude to have. You have to be cut-throat at some point.

Lando was so friendly, bubbly and chatty when he first came into F1, and he still is – but he has something now that wasn’t there before. Yes, McLaren has improved, but it’s Lando who has been the real standout. He’s delivering the goods consistently. He’s up against Daniel and yet it’s Lando who is getting the best from the car and in this first half of the season there has been a massive shift for everybody to see.

Lewis Hamilton was full of praise for him after Austria and when you hear that from your fellow drivers, especially from a seven-time world champion, you do take it on board and feel good about yourself. You relax, knowing your performance is there and you stop having to think about it. When he’s battling with the likes of Lewis he shows good racing skills. He seems to be the perfect fit right now for McLaren and its development path.

Of the two, George Russell always seemed to be the elder statesman. But now there’s not much between them. George is where George was, but Lando has made that little surge which is impressive because it doesn’t always happen, as I’ve seen with talented drivers in the past. I’m thinking of Jean Alesi, who came in with a big bang in 1989. Over his career it didn’t quite happen for him: the Jean I knew in 1989 was still the Jean of the mid-1990s; there wasn’t a change in him. With Lando there’s a mental shift I haven’t seen for a while. Damon Hill went through it and so too did Mika Häkkinen when he left Lotus and went to McLaren. Someone like George arrives almost fully formed, but Lando is one of those who grows into F1.

“What’s happened to Daniel? He’s not too old, hasn’t had a crash”

Will McLaren be the right team for him in the future? That’s always a conundrum for a driver. We should give Zak Brown credit for where they’ve got themselves to. Then team principal Andreas Seidl fits perfectly with a nice balance of personality, as a rock-steady leader, while technical director James Key is another important part of the set-up that

has evolved at McLaren. He has impressed me hugely, bringing on cars that have got better every year in a time when it’s hard to improve. The team does seem to be in a good place and that is not something that is going to stand still. It will only grow.

I saw something similar at Benetton with Flavio Briatore and Michael Schumacher.

Unfortunately for me, Flavio could only really support and focus on one driver. I suffered a bit at that team, as did Jenson Button, Giancarlo Fisichella and Jarno Trulli. But McLaren has always been good at supporting both drivers. OK, they are not at the stage Flavio reached with Benetton/Renault, which allowed Michael and Fernando Alonso to deliver world titles. But it’s a similar example where they are growing together. Can they capitalise on the rule changes next year? Maybe. We’ll have to wait and see.

In contrast, Daniel has been a shock. We never expected him to struggle to this degree. I can put myself in his shoes and it’s horrible, especially when it goes on for as long as it has and you still haven’t found the answer. Yet we know how good he is and he knows it too.

I’ve heard Daniel’s problems are braking-related, but that’s down to the aero too. If it’s head-scratching for us, just think what it’s like for him. But what’s happened? He’s not too old, he hasn’t had a bad crash. There have been plenty of drivers for whom it has just evaporated, and I go back once again to Jean: he was the next big thing and yet he only won a single grand prix. It didn’t work out for him, with all his natural talent. The trouble is if it doesn’t get better that’s when rumours begin, and once that starts and the tornado speeds up you’re just a passenger. **o**

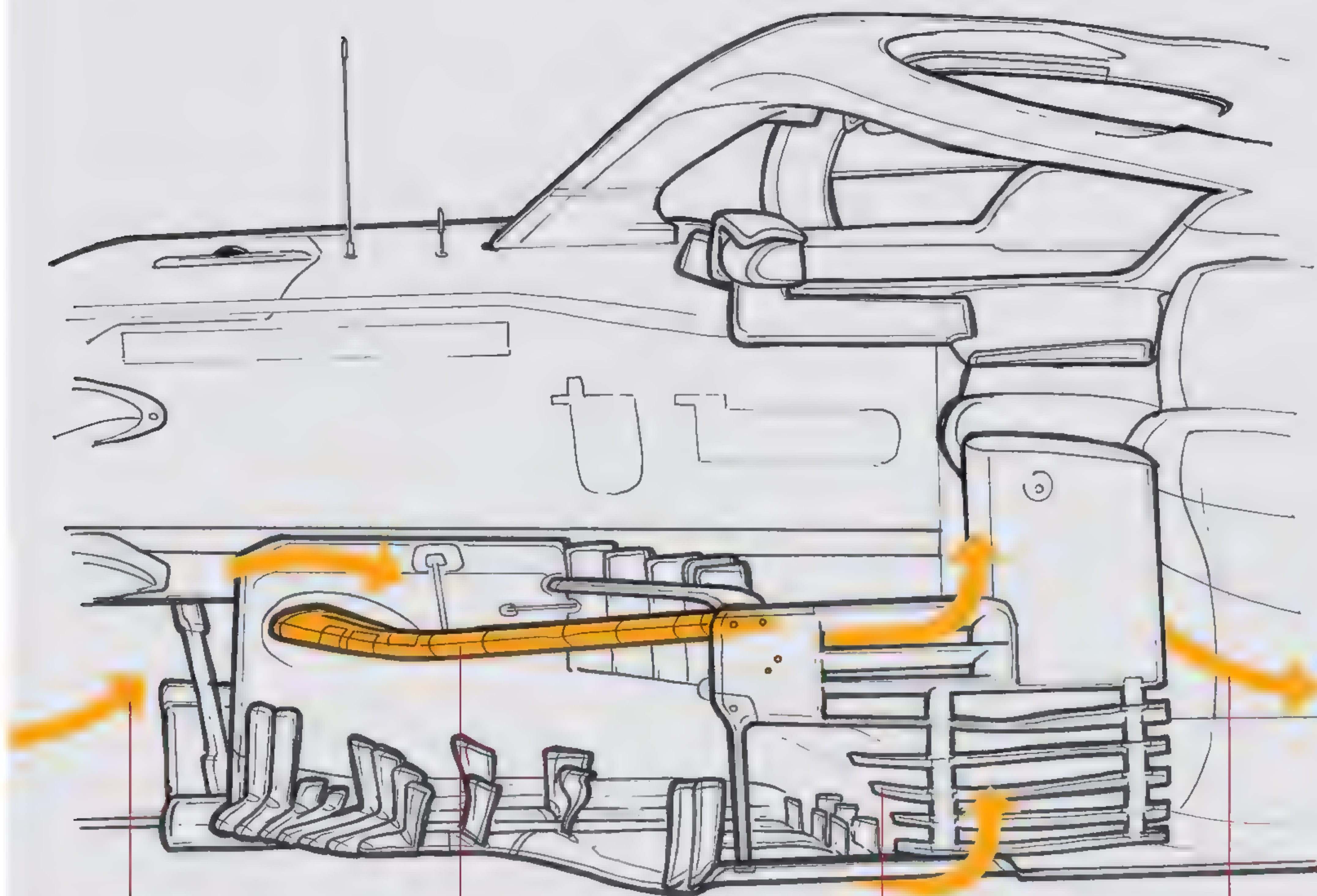
Johnny Herbert was a Formula 1 driver from 1989-2000 and a Le Mans winner in 1991. He is a regular contributor to Sky Sports F1. Follow Johnny on Twitter @johnnyherbertf1

MOTOR SPORT TECH

McLaren's boomerang

While other F1 teams have all but halted development work to focus on 2022, at Woking the tweaks continue

WORDS: MARK HUGHES ILLUSTRATION: CRAIG SCARBOROUGH



UPWASH

Air rises up from front wing, which serves no useful aero function, so this needs to be turned downwards

BOOMERANG

Wing profile turns upwash to downwash, improves airflow to aero devices downstream

SIDEPOD BLINDS

The stack of wing profiles over the floor edge create downforce

SIDEPOD UNDERCUT

Downwash directs airflow over floor and diffuser

MCLAREN IS RIVALLING RED Bull in how many new parts are being produced as each team continues to heavily develop their cars despite the looming challenge of the all-new 2022 aero regulations. McLaren arrived in Hungary with a heavily revised barge board arrangement for its MCL35M. To understand the probable reasons for an apparently innocuous change requires some backstory.

This is a highly distinctive car within the constraints of the quite prescriptive technical regulations, with several unique solutions. The two hard points of distinction have been the diffuser and rear wing.

The McLaren's wing has a small main plane and big flap compared to other cars (which will give it a powerful DRS effect but less than optimum performance in non-DRS running).

The McLaren diffuser's central tunnel is uniquely defined by the full-length strakes which are permitted around the central 500mm of the car's width. Other cars have wider central tunnels which in extending beyond the 500mm zone are obliged to have much shorter strakes finishing further above the ground. The length of the strakes outside the 500mm area was shortened by regulation into this season, as part of a downforce-reducing initiative. The implication is the McLaren's diffuser performance will be more centralised - i.e. more of its total effect will be derived from that central tunnel.

Both these points of distinction seem to have driven a development direction unique to the McLaren, which has proved highly responsive to its programme. In France the car received a new rear wing endplate with lateral rather than upright slots at the bottom, the only car to feature such an arrangement. Generally, the lower endplate slots are there to optimise the aerodynamic relationship between the diffuser and rear wing as some of the airflow exiting the diffuser is directed to the underside of the rear wing above. Creating a bigger pressure difference between the top surface of the wing and its underside will make it work more powerfully. The endplate slots pull the diffuser's flow further outwards, energising more of the wing underside's width.

These will be particularly important on a McLaren with more of its diffuser performance derived from the central tunnel and with a relatively small rear wing main plane. Maximising the flow from the central part of the diffuser could lead to the outboard end of the rear wing underside being starved.

"In ground effect cars, the sealing job was fulfilled by skirts"

In opting to change the lower slats from upright to horizontal, it would appear McLaren is targeting the lowest regions of the area behind the diffuser. The aerodynamic effect of the slots will vary across the speed range and rake angle of the car and it could be that the lateral slots give a better overall performance, given the unique diffuser geometry and rear wing configuration. If the outer areas of the floor outside the central tunnel are less energised because of the unique diffuser geometry, it's quite conceivable the airflow there will need more help in being redirected.

With a high-rake concept of car (which all but the Mercedes and Aston Martin are), teams will always be seeking ways of maximising the rake angle before the diffuser stalls. This will inevitably be at the lowest speeds, as the rear of the car rises as the downforce forcing it down on its suspension rapidly bleeds away as speed reduces. The lower the speed at which the diffuser works, the higher the rake angle which can be used, rake which multiplies the negative pressure beneath the floor through the venturi effect (the way that airflow increases in velocity as it's forced through a constricted area - the leading edge of the floor, in this case - with a big expansion area behind it).

An essential part of maximising that effect is preventing the underfloor airflow from leaking out the sides. In the original ground effect cars of the late '70s/early '80s this sealing job was fulfilled by skirts, but they were long ago banned. Now, the seals are made by vortices

of spinning air along the outer edges of the underfloor. This was made more difficult to do by the 2021 banning of slots in floor edges. Given that the area of the floor was also reduced this year by a regulation cutting away a triangular section of it, clawing back the lost downforce represented quite a challenge.

The 'Z-floor' has been the widespread solution, one which McLaren adopted from the Spanish GP. This Z-shaped cut-out in the floor's edge, in tripping the air around it, induces the desired vortices on the underside edge. Which is good. But in making that cut, you lose some permitted floor area. Which is bad.

In July's Austrian GP McLaren revised its Z-floor, with a softer Z that took away less of the permitted floor area. It features a myriad of tiny vanes around it to accelerate the air into it in compensation for the less extreme Z. The McLaren's diffuser geometry, in prioritising the central tunnel, may well have made the outer areas of floor contribute relatively less and hence this sustained effort in switching it on.

The combination of the lateral rear wing endplate slats and the revised Z-floor should have allowed the car to be run with a higher rake angle by better energising that area behind the diffuser. Running the car with more rake changes the way all the aerodynamic surfaces work. So as each new development part is fitted so the aerodynamicists then re-optimize the car around the new airflow. In this case, it has led to the new barge board on which the standard 'boomerang' piece sitting above the guide vanes now slants upwards towards the rear. This suggests an airflow more in line with a higher rake angle than before. ●



The MCL35M arrived at the Austrian GP with a softer 'Z'-floor. Here's Lando Norris in practice at the Red Bull Ring

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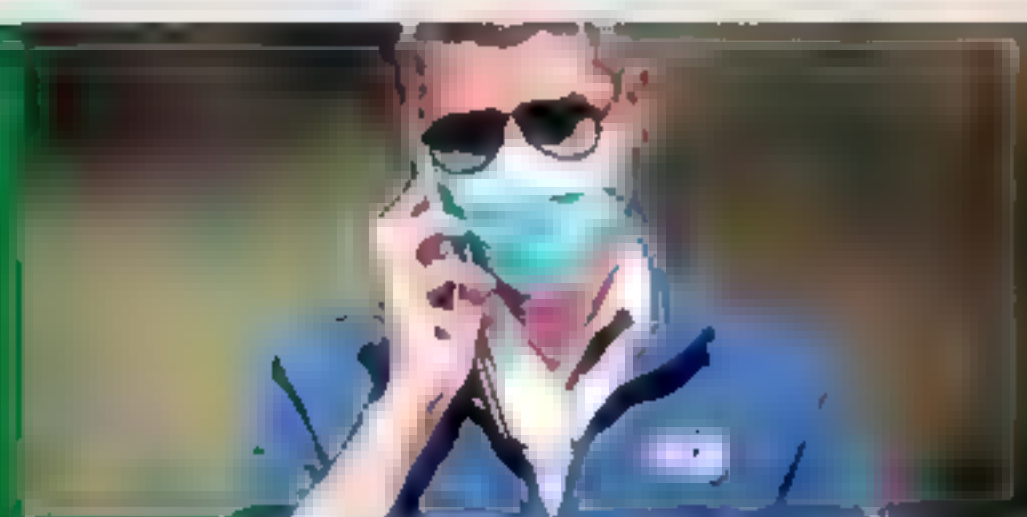


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Good month, bad month

James Elson charts the ups and downs of the F1 circus



▲ F1'S GREATEST EMAIL EXCHANGE

The heat's increasing between Horner and Wolff – and so is the entertainment factor. Everyone loves a feud, especially during one of F1's great title battles – and email exchanges. Wolff to race director Michael Masi: "Michael we have sent you an email." Masi: "Toto, I don't access my emails during the race." Instantly iconic.



▲ CHEEKY 'NANDO

At Silverstone, and then even more so at Hungary, newly 40'd Alonso put on one of the great defensive F1 displays. Making his Enstone car wider than a Northamptonshire combine harvester is the kind of chutzpah people love the Spaniard for.

▲ NEW FRONTIERS

F1 is pushing forward like never before – and it's refreshing. While a deviation from the format we all love and sometimes yawn through, Liberty timed it perfectly, as a carnival-like Silverstone lapped up new proceedings. The sprint might have lost its fizz after a few laps, but overall the new format kept fans enticed throughout the weekend.

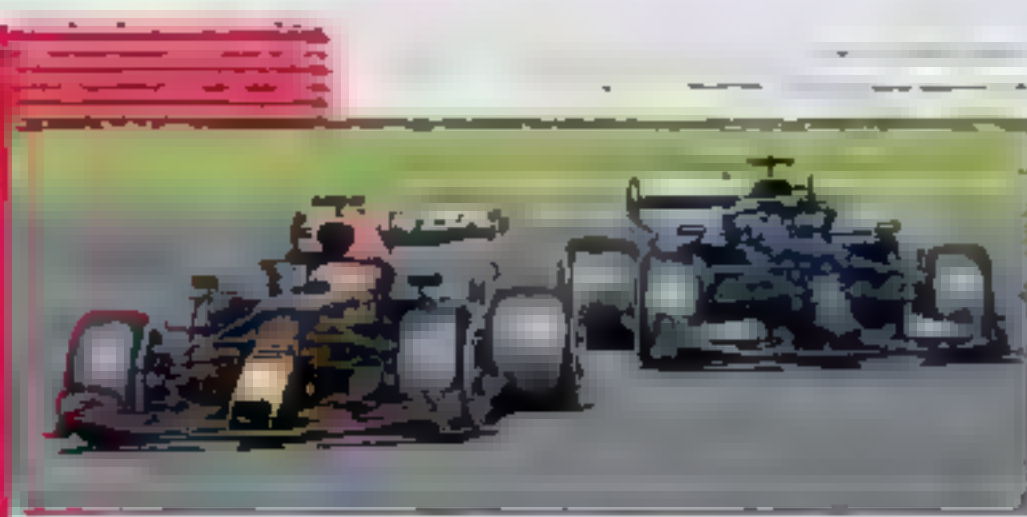
▲ FROM THE BONKERS TO THE BIZARRE IN HUNGARY

Every season needs a crazy race with a plodder winning to relieve the tension of a title fight. One car on the restarting grid, George Russell sneaking past the field in the pitlane, Verstappen's car taped up like something from the *Clangers* – what was not to love about Budapest?



▲ MISERABLE MARANELLO

Ferrari's pre-Hungary press release was brilliantly dour. For a team that's won at the track seven times, it doesn't seem to like it. "Still today, the Hungaroring attracts the attention of F1, despite the fact it is narrow, short, slow, always very dirty, with overtaking all but impossible," it read. *Bellissimo*.



▼ POT KETTLE RED BULL

Famously saintly Red Bull, who have never ever done anybody wrong and don't have a lead driver who arguably entered F1 at too young an age and certainly didn't serve his apprenticeship by mainly bouncing off other drivers – is now complaining that Hamilton committed "dirty driving" at Silverstone...



▼ PIRELLI SPEED KING AWARD

Why don't they give official pole to the fastest driver of Friday's qualifying? As good as the sprint was, it didn't feel like it was deciding 'pole' even if it did determine the starting grid for the GP.

▼ BOWLING BOTTAS BALL

Fair play to Valtteri Bottas in Hungary – in a renewed attempt to keep his Mercedes seat, he tried something different, thought out of the box. What did Toto say to him pre-race? "Visualise how you're going to help us win the title"? Something like that. Maybe.



▼ RUSSELL-ING UP A POINT OR FOUR

Poor George Russell. Spends almost three years trying to score a single point for hopeless Williams, then gets beaten in the race by rent-a-drive Latifi when he finally does so.



▼ SPINNING AROUND

Sebastian Vettel demonstrated that he still hasn't lost it by spinning apropos of nothing in the Silverstone restart. He also cleaned up litter after the race – rumours yet to be confirmed that this was principal Otmar Szafnauer's latest punishment.



F1 RETRO NOVEMBER 1984

Birthday bell Toes for Team Enstone

Extraordinary tales from the *Motor Sport* digital archive

THIS MONTH MARKS 40 YEARS SINCE Team Enstone made its F1 debut, as Brian Henton laboured the ungainly Toleman TG181 to 23rd on the grid at the 1981 Italian GP.

The team now traced from that lineage has, of course, just won again, Esteban Ocon taking a warmly received debut victory in Budapest for the squad now branded 'Alpine'.


In its original guise, Toleman's best car was the TG184. Designed by Rory Byrne and driven to legend by Ayrton Senna, it became notorious after nearly carrying the Brazilian to a first victory at a red-flagged Monaco GP.

In this month's F1 Retro choice, from November 1984, Gordon Cruickshank talks to Byrne while Dieter Serowy drives the very chassis (No2) Senna made his name with.

Its early efforts resembled a flying brick, but use of the MoD wind tunnel made the '84 car a more potent prospect. "Brian did an incredible job on the budget he had," says Byrne in the article. "No one else could have done it for the money; it was remarkable."

Team Enstone might have had humble beginnings, but as Cruickshank concludes, this car was the start of something bigger. "It was like a Hollywood script: an underdog team, a chassis from an unproven designer, and the first flash of genius from a champion-to-be."

To read the full story visit motorsportmagazine.com/archive



A Defender with a top speed of almost 150mph – but is there a crazier version on the way?

Think outside the box

On our rapidly electrified highways, is this the right time for a 5-litre V8 Land Rover Defender? **Andrew Frankel** finds out

DON'T LOOK AT THE LAND ROVER Defender as a standalone vehicle. It is in addition an image builder for Land Rover and a much needed one as well. For a while Range Rover has snapped up all the attention from the fashionista media. Since the demise of the original Defender five years ago now, poor old Land Rover has had to subsist on the thin gruel

provided by the unremarkable Discovery Sport and visually charmless Discovery. The Defender's job is to sprinkle stardust on them, and sprinkler-in-chief is the new V8 version.

For this is a car nobody needs. If your requirements are simply for a fast Defender could I commend to you the quite excellent plug-in hybrid version which will still break six seconds to 60mph but cost a fraction both to buy and run. It is a far better car.

This won't trouble Defender V8 prospects at all for they don't want the best Defender, they want the one that will make them feel best about themselves, and that is a different matter. In such affairs a 5-litre supercharged V8 will trump a 2-litre turbo hybrid four every day of the week, month and year.

The motor used is the 'standard' 5-litre V8 producing 518bhp, backed by 461lb ft of torque, which sounds a lot until you consider the rival, albeit far more expensive, Mercedes G-Wagen offers 585bhp and 626lb ft of torque despite having only 80% of the engine capacity.

What also needs factoring in before anyone gets too excited is that even in short-wheelbase form it weighs over 2½ tonnes, an enormous mass for a car built largely from aluminium.

What this means is that the Defender V8 fails to live up to the level of expectation that naturally builds up around it. What you're hoping for is some maniacal Tonka toy, ping-pong you from place to place with outrageous speed and a thundering soundtrack. In fact, it does neither of these things.

The truth is, the Defender V8 just isn't that quick. Think hot Golf and you'll not be far off the money. The Porsche Cayenne Turbo that the same sort of money will buy is in a



The cabin is a sea of black leather and extra suede, along with a 10in display screen

"The strange thing is that the engine is in a supporting role"

different world of performance, so if you just want to go fast, for goodness sake buy one of those instead. Worse, the Defender V8 doesn't even sound that interesting. There's a V8 thrum, rising to a distant rumble, but it's all far too civilised to provide the aural theatre many, if not all, customers would hope for and have every right to expect from such a car.

All of which would add up to a sizeable disappointment if, somehow, the car didn't exude charm and offer genuine pleasure. For which we can thank not its engine, but its chassis.

It's extraordinary how well Land Rover's suspension engineers have persuaded a mass so high and heavy to handle so well. Of course there's stiffer suspension but the car comes on 22in rims as standard (or 20in with off-road tyres if preferred) and has a new and electronically controlled limited slip differential at the back. Torque vectoring where an inside wheel is braked to kill understeer is also included.

And it's still not hugely fast cross country because grip is inevitably limited, but it is mightily composed and accurate, the steering is terrific and it all combines to provide a level of driver involvement and confidence you just don't expect from this kind of car.

It is also still excellent off-road. I accept that approximately none of the people who will buy the car will try it in this environment, but it will still be important to them to know it can cope, which it does with majestic Land Rover style. I went clambering all over Eastnor Castle's many off-road routes and discovered that, as usual, the limiting factor was the courage of the driver, not the ability of the car.

The strange thing with this Defender, especially to those who remember how Rover V8 motors of far less potency so transformed versions of the old Defender, is that the engine is cast in a supporting role. It is an enabler, the device that provides the energy the chassis requires to bring it alive and show you what it can do. So this was a car I liked, just not for any of the reasons I had originally expected.

Would I have one? Probably not. As previously stated, as a workhorse the plug-in Defender makes more sense on every level that might be important to you. And as a thing of fun for those who think spending upwards of £100k on a Defender is a reasonable thing to do? If I were one of them I'd be asking myself why JLR didn't go the whole hog and put its most powerful V8 engine under the bonnet, for there is a 567bhp specification motor in its

catalogue. I'd be asking also whether there is likely to be an SVR skunk works edition coming down the tracks not far from now.

I'd bet plenty that there is, and that the reason the current Defender V8 is not quite as rapid or rude as you might have expected is to create clean air into which such a car might fall. So while this might be the ultimate Defender for now, I don't imagine it will be so forever. And as ever more restrictive legislation arrives, I expect the window for creating the nutty Defender V8 of our dreams is narrowing daily. In short, my guess is that that car is coming, and sooner than you might think. ●

LAND ROVER DEFENDER V8



- Price £98,575 ● Engine 5-litre, 8 cylinders, supercharged
- Power 518bhp at 6000rpm
- Torque 461lb ft at 2500rpm
- Weight 2546kg ● Power to weight 203bhp per tonne
- Transmission Eight-speed automatic, four-wheel drive ● 0-62mph 4.9sec
- Top speed 149mph
- Economy 19.3mpg ● CO₂ 330g/km
- Verdict Interesting to see what's next...

Sizzling hot hatch

Power-packed Mercedes-AMG A45 S comes with a hefty price

IT'S BEEN TWO YEARS SINCE MERCEDES announced the existence of this second-generation A45 S but now it's found its way over here its 416bhp 2-litre engine still offers the highest specific output of any four cylinder engine. As a result and once hooked up to a four-wheel-drive system, the car is the only production hatchback of which I am aware that can accelerate from rest to 62mph in fewer than four seconds.

More impressive is the way it does it: there's no peakiness and actually quite an invigorating growl as it slings you across the countryside. It reminded me of those ridiculous 'FQ' Mitsubishi Evos but without the terrible turbo lag.

While the engine grabs all the headlines, just like the V8 Defender reviewed on the previous page it's actually the chassis of this world's fastest hatch that is the real star turn, for it manages that impossibly difficult task of making the car feel like a real roller-skate, yet without ride quality that makes you fear for the integrity of your dental work.



The entry point to the Mercedes-AMG world rides like a roller-skate but a small fuel tank compromises its endurance

There are problems: the range is useless because the fuel tank was designed for diesel engines with much less than half the power, and the enormous front chairs rob you of rear legroom, but the only real deep breath comes when you see it is £56,595. That's not Porsche Cayman money, that's Cayman S and good to drive though this is, it's not that good. Then again, if you need the rear seats and boot space, it comes closer than you might imagine. **AF**

MERCEDES-AMG A45 S

- Price £56,595 • Engine 2-litre, 4 cylinders, turbocharged, petrol
- Power 416bhp • Torque 368lb ft
- Weight 1550kg
- Power to weight 268bhp per tonne
- Transmission Eight-speed double clutch, four-wheel drive
- 0-60mph 3.9sec • Top speed 168mph
- Economy 34.5mpg • CO₂ 185g/km
- Verdict That's Cayman S money.

Bittersweet symphony

Speed, comfort and true V8 sound from Maserati's SUV



WITHOUT WISHING TO spoil your reading pleasure, it is fair to say that the two other road cars that I've reviewed this month are both machines you expect to be all about the engine until you drive them, whereupon you realise almost immediately your attention actually deserves to be elsewhere.

And because this Maserati Levante comes sporting an engine designed and built by Ferrari for use in its Roma coupé, you expect it's likely to play a pretty big role in proceedings too. In the event it's like going to a gig by an understated acoustic folk band called Saving Grace and discovering its lead singer is Robert Plant.

The engine is this car's saviour and, looks aside, the only reason anyone might consider spending so much on what is an unremarkable SUV. Its interior is well ordered but rather bland, its handling is certainly secure but little more and its ride is only just good enough. And there's not much room in the back.

But that engine! Cleverly they've fiddled with its firing order and fitted a crossplane crank, which means it bellows out traditional V8 music. And while the numbers suggest the car is pretty fast, to me at least it felt far more rapid even than that.

Like the Defender V8, it falls foul of the Cayenne Turbo argument, but if you like the looks you'll love the speed. Enough to coax £125,000 out of your pocket? **AF**

MASERATI LEVANTE TROFEO

- Price £125,370 • Engine 3.8-litre, 8 cylinders, turbocharged, petrol
- Power 572bhp • Torque 538lb ft
- Weight 2170kg
- Power to weight 264bhp per tonne
- Transmission Eight-speed automatic, four-wheel drive
- 0-60mph 4.1sec • Top speed 188mph
- Economy 20.6mpg • CO₂ 308g/km
- Verdict It's all about the engine.



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Divine escapism

The world has been a funny old place for the last year or so, and if you're in need of the distraction of a good book, **Gordon Cruickshank** runs down some of the finest around



Curvaceous, sleek and usually stand-out loud – the Lamborghini Miura gets a tome worthy of its cult icon status

by Gordon Cruickshank

How about calling it the Lamborghini Lidia?

We're glad they didn't. The story of the Lamborghini Miura is now explored and celebrated like never before in this new work

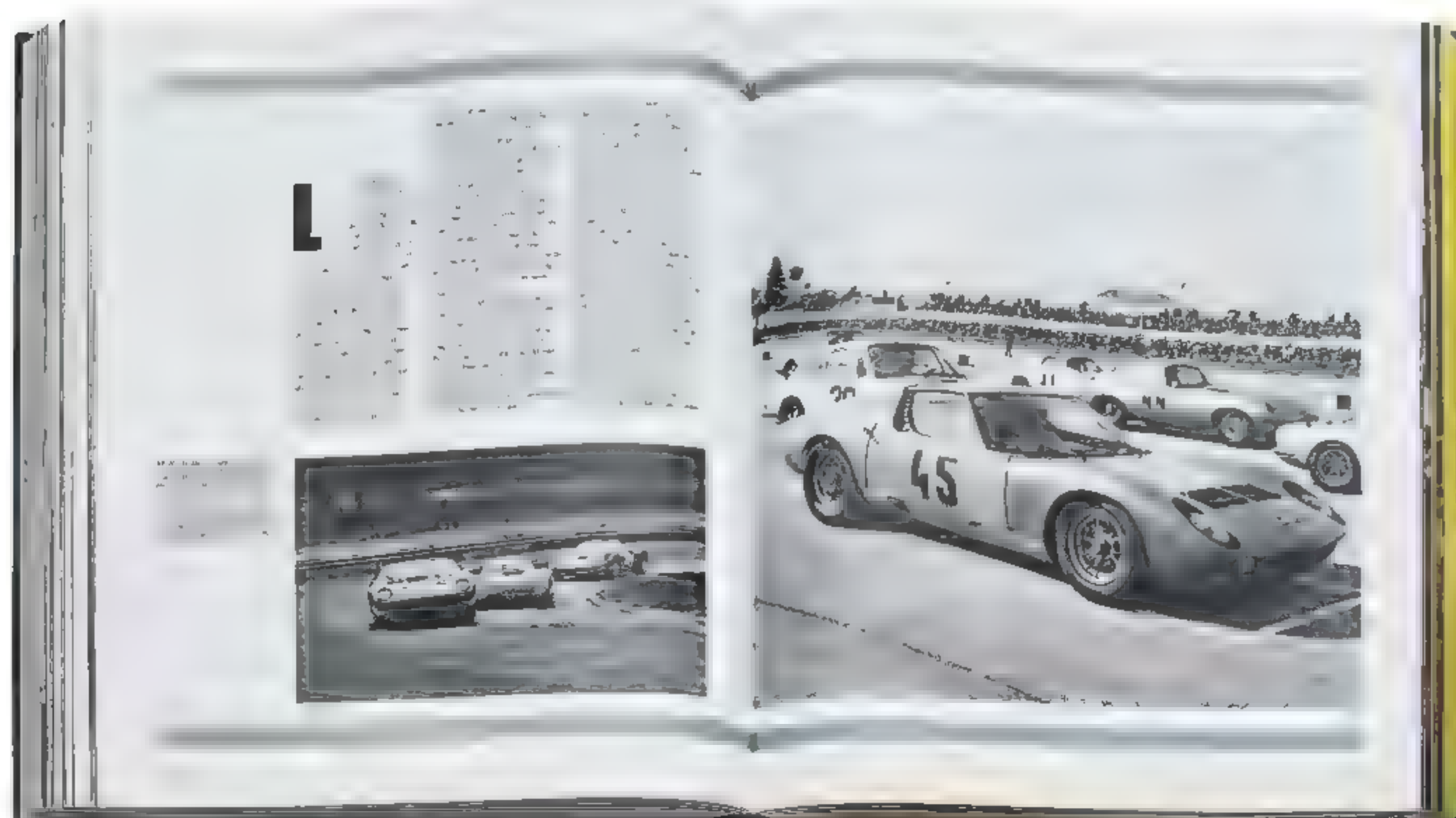
IF YOUR FIRST THOUGHT ABOUT Lamborghini Miuras is *that* film, you're in good company. It was the same for Simon Kidston, collector, car broker and father of this book, and now an owner. If your first thought on seeing the book is 'this is beautiful' then you're in company with me, too - it is stylish and fabulously presented. The square format allows for large photos and drawings you can see properly - a lovely Vic Berris cutaway gets a double-page spread, much bigger than it would have been in *Autocar* originally. And there's another surprise - an internal foldout bearing a vast black-and-white profile shot of chassis designer Giampaolo Dallara's own Miura. Several more equally beautiful pop out through the book. But if there's a negative to the design, it's that the text is small, the captions are smaller, and the footnotes (yes, there are footnotes!) too much for my aged eyes. If you're over 40 have your readers ready.



Lamborghini Miura
Jon Presnell
Kidston, £450

Presnell enjoys a mystery, spending two pages on whether Gandini or Giugiaro deserves the visual credit (it's Gandini) and a page on the name - it's not a type of bull after all but the surname of a bull breeder in Spain. Strictly speaking, says Presnell, if named for the bull then the car should have been a Lamborghini Lidia.

There are boxes on designers, engineers and testers, a plethora of interviews with Lamborghini hands, memories from owners, and space for the princes and playboys, rogues and rascals who bought the cars. It is extraordinary given the impact the design made at its launch (a discussion by Gandini on colour reminds us that nothing on the road



Miuras unleashed: the svelte supercar wasn't only seen on the boulevards of Europe. As this splendid book illustrates, several enthusiastic owners took their V12 chargers racing, too



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was bright orange at the time - this was a real shocker) to think the company feared they might sell just 50; thus chassis were at first handbuilt which meant quality varied and costs were high. It's clear that production was a beautiful struggle with little profit. Orders poured in, cars crawled out, not helped by squabbles in the sales office, delays and fault-fixing on the hoof such as the flexible chassis (only fixed from car 126) and those infamous reach-for-the-sky aerodynamics. Some fixes were done secretly when cars were serviced later, and in his foreword Sir Michael Kadoorie recalls collecting his car, then taking it straight

back to be fixed. By the final SV the Miura was right - but Countach loomed and Miura was strangled. "A real mistake," says a factory insider, "because for the first time we had a correct and reliable product."

I was surprised by how much motor sport the Miura actually tackled; there were even several one-off open sports racers I have never seen before. Jon also mentions the two Lambo V12-powered Bizzarrini P538 sports-racers, which I did know about as I once had the thrill of firing up one of them.

Naturally there's huge detail on the Jota, legendary engineer Bob Wallace's one-off

super-special and its fiery fate - pictures of this and other accidents remind you that safety wasn't a prime concern. And this was a tricky car: later there's a mention of "that select club of celebrity Miura-crashers..."

Pages of road tests, brochures, film appearances (stacks of them, apart from *The Italian Job*), and production modifications close a book with a 'price no object' feel - mainly because price was practically no object: the layout is dramatic, the quality excellent, the research forensic. Rather fine, in other words, but unattainably costly for most. Rather like the Miura.

"There is a mention of 'that select club of celebrity Miura crashers'"



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Porter Press
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An impressive work conveying the story of a fine French make's return to competition success on European hills and race tracks

DANIEL CABART ALREADY HAS an impressive track record with Delage - in 2017 he was awarded the RAC Specialist Book of the Year for his volume on the marque's 1926-27 grand prix successes, so his scholarly thoroughness is not in doubt. This wider-ranging book on the company's competition efforts covers the four years before that, including that supremely delicate 2-litre V12, the 2CLV. It's daunting in size, but Cabart and co-author Sébastien Faurès Fustel de Coulanges have added a note at the start saying there's a conclusion at the end you can consult as a summary. How very thoughtful of them.

The book sets out with a short history and tales of the significant figures, devoting a good deal of time naturally to René Thomas, who was involved in the first mid-air collision in 1910 yet lasted long enough to be pictured riding with Graham Hill and returning to Indianapolis in 1973. Thomas's detailed memoirs are a vital source for Cabart's researches and he quotes extensively throughout this book as Delage returns to competition after an 11-year layoff.

Boasting very high-quality reproduction, considering most of the photos are 100 years old, it includes some lovely reproductions of period artwork such as from Geo Ham.

Starting with descriptive tales of the firm's forays into sprints and hillclimbs (Cabart says

they just concentrated on the ones they found interesting "but the rest are all in the appendix") the book gives a supremely thorough description of gearing up for grand prix events through various glories on the way with many models, notably Thomas's 1924 land speed record with the 10½-litre V12. There's even a report of the Banville hillclimb up the external spiral ramps to the multi-storey garage in Paris, where the penalty for leaving the course was a 50ft fall to the street below.

Numerous technical drawings support the descriptions, for instance of the influences from Sunbeam and FIAT, backed by nicely chosen adverts and magazine extracts, all generously laid out. Cabart's range of sources is huge - a Swiss motor sport newspaper, club newsletters, correspondence with principals, including a letter from Louis Delage to Ettore Bugatti assuring him that their rivalry was entirely amicable, and he's just as thorough with the blind alleys such as a supercharged two-stroke with 12 cylinders in U formation. I'd love to have heard that on song.

Although this requires dedication to absorb, it's a virtuoso piece of research.



Delage - Records & Grand Prix

Daniel Cabart, Sébastien Faurès Fustel de Coulanges
OREP Editions, €150,
ISBN 9782815106115

SAM'S SCRAPBOOK

Sam Posey with John Posey

I never heard of learning racing lines by pulling model cars on strings but that was Sam Posey's school room - followed by buying a 300SL, aged 14. Typical of the unexpected tales he throws up in this scrapbook of short, snappy stories, told with the same crisp frankness whether it's flops or fanfares. From the glamour of Can-Am and Le Mans and Penske Ferraris to sitting in a truck full of turtles or being attacked by Peter Revson, Posey is matter of fact about all of it, including the Parkinsons that stopped him racing. A refreshing change from lengthy, completist biographies.
EVRO, £30, ISBN 9781910505656

PORSCHE 928

David Hemmings

Compact and concise, this is more a reference work than anything, with much detail on mechanics, model changes and year improvements. Well illustrated, including specials such as cabriolets and the truly hideous 1980s Strosek body kit. Amberley, £15.99,
ISBN 9781398106680

ORIGINAL JAGUAR E-TYPE

Malcolm McKay

If you want to know when they changed the E-type's fluid reservoirs, walk this way... A vast book of super-detailed facts with an almost Haynes Manual level of illustration but without the 'how to' element. Possibly the last word in E info. Useful for restorers and obsessive concours types but not a bedside read, and oddly punctuated with adverts. Porter, £65, ISBN 9781907085932

TIPPING POINT

Andy Plumb

Plumb's subtitle is *Designing a Great British Underdog*, and he enjoys telling us why among the Reliant Robin jokes (he makes plenty, too) we should respect the firm's achievements - clever moulding tech, that all-alloy engine and more. Once the firm's designer, he has lots to show - proposals galore, many a lost model and dozens of cars you didn't know they'd built. And yes, he drives one. TW8, £44.99, ISBN 9781527256194

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Defining the GTO

You have to be confident to use such a term for a work on the most famous Ferrari, but James Page's work hits expectations

A BOLD ASSERTION, THE WORD 'definitive', but such is the subtitle of this production, and if its two hefty volumes don't back up the claim then something is wrong. No complaints here though; Page has done this precious car good service, while a staggering number of photographs covers not only every car built but, I assume, every event they ran in. While volume two covers individual cars, volume one takes us through the world championships the car was built to contest, following each entry with all its results and generous illustrations, such as a dramatic shot of Tommy Hitchcock gazing at the upturned remains of his GTO bang in the middle of the Karussell banking.

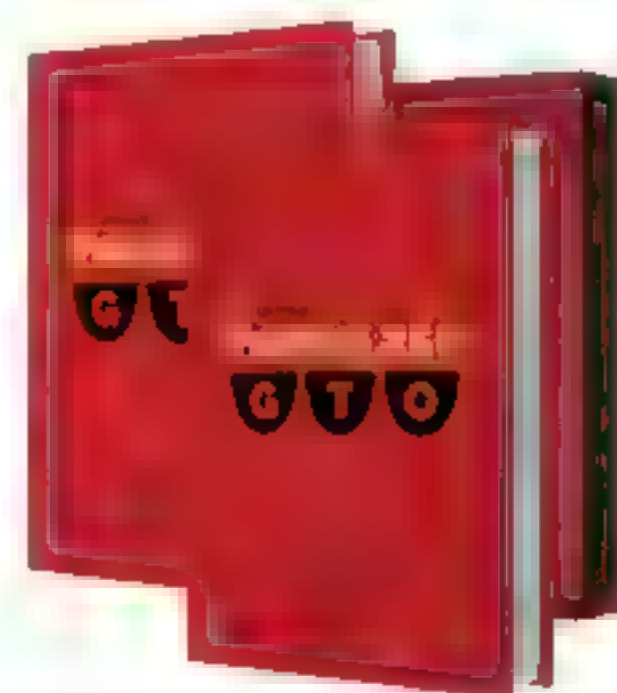
The development tale is of course already well told, so Page gets pretty smartly on to its competition life: the works years, gloriously illustrated from Sebring, the

Nürburgring, Goodwood and Spa, and the great European hillclimbs, plus the privateer undertakings. The declining period as the now-outdated machines drift down the pecking order to minor sprints and climbs comes in volume two, devoted entirely to complete and utter histories of the 36 cars plus the half-dozen 4-litre examples.

Page quotes owners' personal memories, many of them pained ones about how cheap these things were to buy for a while and how much they regret selling. One was even given away - donated to a school for use in its auto mechanics programme and later left to rust out in the open by someone who ran a company called Motor Cars Masculine, which perhaps tells you a lot. Thankfully it was rescued in time. That's one of the photos that make you wince along with many a racing accident; quite a few of these cars now wear replacement bodies - that's what happens in racing. During the 1960s

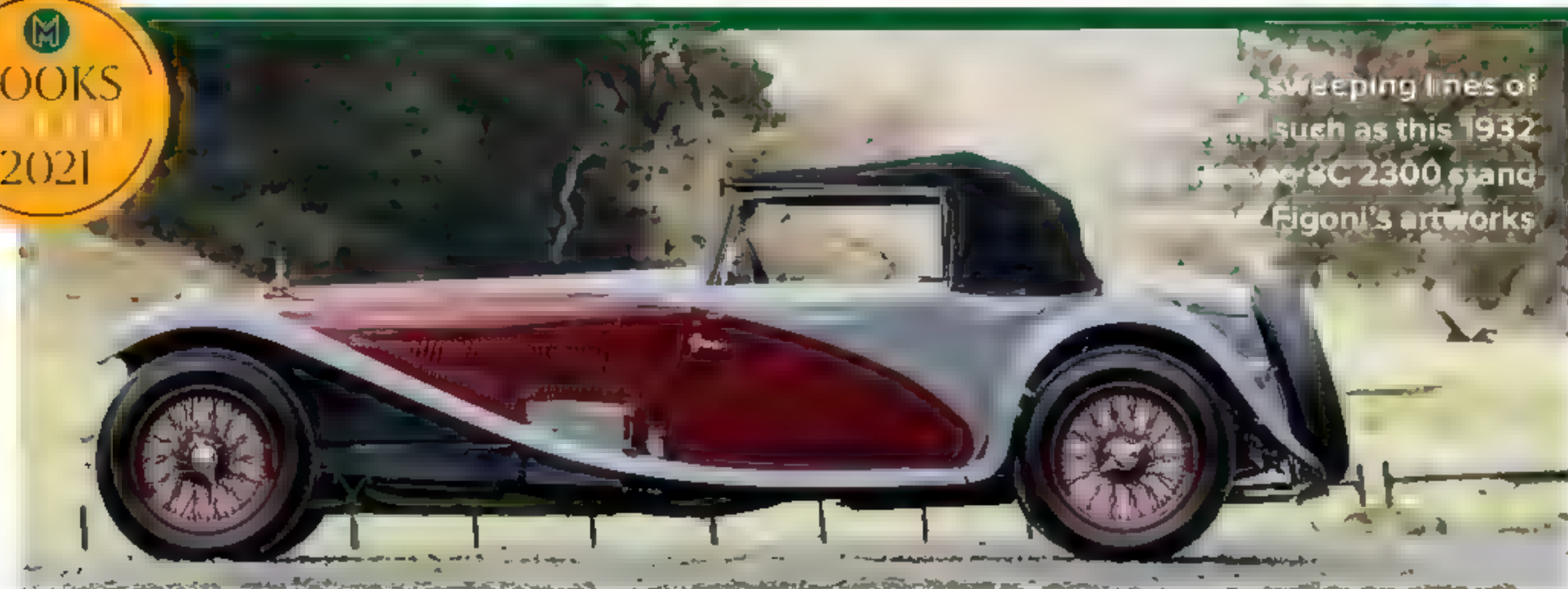


one GTO, having been bought for \$8500, was refused shipping insurance because "there was already too much bodywork damage to catalogue". Volume two is a fund of such small but telling stories, making what could be a mere list eminently readable, and complementing the whole.



Ultimate Ferrari GTO – The Definitive History
James Page
Porter, £450 or £1500,
ISBN 9781913089023

BOOKS
2021



Sweeping lines of such as this 1932 8C 2300 Grand Prix car, Figoni's artworks

Don't just judge it by the cover alone...

What lies beneath the lovely exterior is a true work of passion, devoted to some classic automotive artwork

I F I WENT IN FOR JUDGING BY COVERS, I'd be smiling on this with its lovely speckle-bronze finish, and the fact that it's packed with Alfa Romeos is for me the perfect cake to go under the icing. Unusually, this *catalogue raisonné* begins by applauding the work of others, notably Simon Moore, even advising us to look out for his next 2.3 8C book. It's their way of saying that the book is not going to spend as much time on the mechanicals as it otherwise might. Sound judgement, as this is about coachwork, specifically that produced by the *carrosserie* of Joseph Figoni in Paris.

With access to the firm's sales books the authors are starting from the horse's mouth, and continue with much information about both the Figoni firm and Alfa Romeo in Paris,

including its very striking modernist HQ, and the significant link between the two Italian expats Figoni and Luigi Chinetti. "Pasta is more bonding than *pommes frites*," it says. Those early days have their fascination, illuminated by period adverts including one offering different racing tails for your Le Mans 8C2300, and a terrific cubist Alfa poster by René Magritte, and one section is about the Le Mans entries. But the meat here (to mix culinary metaphors) is the catalogue of each chassis, its history, its original body and changes since then, with all phases illustrated if humanly possible.

With designs ranging from skimpy racing torpedoes to sinuous and streamlined road cars, often featuring in concours (a whole appendix on these features some stunning machines), one marvels at the effusion of creativity that can be applied to the same chassis. As well as at the dedication that produces books like this...



Joseph Figoni
Peter M Larsen and
Ben Erickson
Moteurs!, £190,
ISBN 9788797288207

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Pete Lyons

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EVRO, £75, ISBN 9781910505496

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David Tremayne

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Palawan, £500

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Richard Williams

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Darren Banks & Kevin Guthrie

Not just the story of the talented Welshman who lost his life in a stupid accident, but an assemblage of memories from rivals, colleagues and friends illuminating the character of a quiet man who was just beginning to show his immense potential in Formula 1.

Performance Publishing, £35, ISBN 9780957645073

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BOOKS
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Hot off the press...

...and sure to sell like hot cakes, or bread. This showcases the legendary Ferrari 'Breadvan' and the fight against its creator

WITH ITS AGGRESSIVE nose the Breadvan Ferrari is usually seen as a quasi-GTO, but as author Richard Heseltine

explains in this book, it started life as a plain 250GT but was upgraded specifically in order to beat those 'ordinary' GTOs.

As a new machine it was originally supplied to Belgian grand prix and sports car driver Olivier Gendebien, but as early as 1962 it was transformed, losing weight and gaining its unique estate-car shape and pointed nose thanks to Count Volpi and his Scuderia Serenissima.

The crucial backstory, as Richard explains, is that Volpi was involved with the



Breadvan – A Ferrari to Beat the GTO
Richard Heseltine
Porter, £45,
ISBN 9781907085369

abortive 1961 ATS effort which stole away key figures from Ferrari, so Enzo refused to sell him the two GTOs he wanted. The irony is that although a GTO is still seen as the acme of automotive desire, the Breadvan is now regarded as an honorary GTO, and is the most recognisable of them all.

Hundreds of photos show the car in all its events and differing guises (various biffs and bangs have seen the nose alter notably), new research confirms some missing details of its life, and Heseltine also clarifies who actually built the new body - it is usually attributed to Drogo, who had earlier rebodied Serenissima's previous Testa Rossa, but was apparently actually built by nearby Neri & Bonacini.

He also outlines the history of the Scuderia Serenissima and the cars and engine it later went on to build, and fills in the years between the Breadvan's decline and its reappearance as one heck of a road car and in historic racing. A good read about a unique machine which may have been intended to cock a snook at the Modena maker, but has now come into its own.



Murray Walker
 1919-1996
 Commentator and
 F1 driver
 1950-1951
 1952-1953
 1954-1955
 1956-1957
 1958-1959
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 1962-1963
 1964-1965
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 2018-2019
 2020-2021



Channel hopping

A new biography of the late Murray Walker by F1 writer **Maurice Hamilton** will celebrate the voice of motor racing like no other. The highly anticipated book is published in the autumn, but with this exclusive extract *Motor Sport* readers can get a sneak preview of what is to come...

SPECULATION HAD ENDED ON Monday September 23, 1996 when it was revealed that Murray Walker would be ITV's main Formula 1 commentator. The announcement was made by MACH1, a trading name devised from a coalition of the Meridian and Anglia ITV channels, plus Chrysalis, Neil Duncanson's production company that, a few days before, had won the five-year contract. Having secured their key player, MACH1 would continue to put together the rest of the broadcasting team, with particular focus on the commentator to accompany Murray.

Martin Brundle was mentioned in various speculative media reports. But the man himself was not so sure - primarily because he was, first and foremost, a racing driver. Martin had just completed his 11th full season of F1, Jordan having been one of several different teams the Englishman had raced for across 158 grands prix. Still chasing that elusive and much deserved first win, the 37-year-old continued to have his eye on racing F1 cars rather than talking about them.

Brundle did, however, have a brief experience of broadcasting - thanks to the extracurricular activities of James Hunt. Much to the alarm of the BBC team, James had failed to turn up on race day for the 1989 Belgian Grand Prix at Spa-Francorchamps.

"James was not to be seen, five minutes before the race, five minutes into the race; 25 minutes into the race - nothing," recalled Murray. "I was doing it alone and Mark [Wilkin, BBC Sport producer] was getting anybody who had retired from the race to come to the

commentary box. James never turned up. He apologised afterwards. He said: "I'm terribly sorry I wasn't there. I was in bed with a stomach complaint." And I thought - it's the first time I've ever heard it called that! But the point is, this was when Martin Brundle did his first talk on TV and the first occasion when we started to discover how good he was."

"I was driving for Brabham in 1989," said Brundle. "The car was quick at times, but unreliable. Spa was one of several retirements. When that happens you just want to get away from the race track as soon as possible, but on this occasion I was out quite early in the race and I got dragged up to the BBC box to help Murray out and comment on what was going on in the race.

"One of the problems with Spa is the horrendous traffic after the race. I remember sitting there thinking: I need to get out of here. As soon as I could, I slipped away. When I spoke to my manager the next day, he said: 'Why did you stop? It was going so well. Were you crazy? You should have stayed up there.' I have to admit I found it interesting that I got quite a lot of nice feedback."

On Monday January 27, 1997, Brundle was part of a seven-strong team announced by ITV. Simon Taylor (formerly BBC Radio) and Tony Jardine (former BBC pitlane reporter) would offer analysis from a studio on site at each grand prix; pitlane reporting would be handled by Louise Goodman (ex-Jordan press officer) and James Allen (former *Autosport* news editor), with the seasoned ITV sports presenter Jim Rosenthal hosting a package that promised to give 'more interviews, analysis, expert opinion and humour'.



Walker played a crucial role in easing the nerves of ITV Sport's new F1 presenting team in 1997

A publicity photograph showed the ITV team ranged around a Williams F1 car and incongruously holding white crash helmets, perhaps suggesting they expected flak from an F1 audience nurtured by the BBC and unaccustomed to adverts interrupting their viewing. It was promising to be a particularly difficult role for Rosenthal, despite his vast experience in broadcasting.

"When I got the F1 assignment, it was a bit of a rush job," said Rosenthal. "Steve Rider had been lined up, but they came to me in early January and said I had the job and it was starting in less than two months' time. From that moment on, my house sounded like a bloody race track as I went through videos of every grand prix known to man.

"I was obviously very aware of Murray, but I didn't know him personally. I rang Murray and said: 'Sorry, you've got me doing this. I'm a bit hesitant in asking [for help].' He said he'd be delighted to help. 'You'll be absolutely fine,' he said. 'If you need anything, I'll be here 24/7.'

"What will Murray have? Hmmm! He's going for porridge. Incredible!"

That was phenomenal; such a comfort to me, it really was. Murray was hugely supportive."

If Rosenthal was at home in the wider world of broadcasting, it was completely new territory for Louise Goodman. "I didn't grow up in a massively motor sport family," she said, "but we did watch the grands prix, and when I got interested in the sport it was at the time of Murray and James; that absolutely iconic partnership. When I began working in the F1 paddock doing sponsorship co-ordination with some of the F1 teams, I remember the great Murray Walker coming up and saying: 'Hello, dear. Just wanted to say hello; I'm Murray Walker.' And you think: 'Oh my God; why is Murray Walker introducing himself to little old me?' You're glancing over your shoulder to see if he's actually talking to someone else. But that was so Murray. He had time for everybody in the paddock, and it wasn't as if he forced himself to make time; that was just the way it was with Murray.

"The step into broadcasting was obviously a very big one for me - as it was in different ways for the ITV F1 team. We had said we're changing everything; we're going to have ad breaks; we're not going to have *The Chain*; we're going to have a bunch of different people; we're going to have a woman on the crew; we're going to have this;

we're going to have that. But then to say we'd got Murray Walker meant everyone could feel they were in a totally safe pair of hands. That's the bit that fans cared about; the bit that made them think 'Formula 1'. Having Murray on board meant exactly the same thing to everyone on our team. It was, like: we'll be OK, Murray's on board."

James Allen needed no introduction to Murray. Having grown up in a motor sport family - his father had won his class at Le Mans in 1961 - James had met Murray several times, a relationship that moved onto a more professional basis when Allen began working in F1 in 1990. "I was with the Brabham team in a communications role, which brought me into contact with journalists and broadcasters," he said. "I had quite a bit of engagement with Murray and always found him very straightforward, very easy to deal with, and very serious about the sport. But there was a great humour and warmth that went with his massive passion for motor racing. I understood

that enthusiasm because it came from the same place as mine - as it does if you grow up in a racing family. I always got on really well with him. And then we were thrown in together at ITV, which was hugely exciting.

"Apart from knowing him, I would be working with a legendary broadcaster who was enormously popular with the audience. But Murray did not stand back, take the plaudits and do little else. He really bought into this new era. Before the whole thing went live, he would regularly travel up from his home in Hampshire and become really involved in the production meetings when we covered how we were going to manage everything from the ad breaks to features to taking comments from the pitlane and the studio."

Hyping up the forthcoming show would be one thing; presenting the first grand prix live, quite another. The buck stopped on Neil Duncanson's desk.

"We were understandably nervous about the whole thing," said Duncanson. "There was so much at stake for MACH1, for ITV, for everyone involved. We had 23 hours, or however long the flight took, to think about this on the way to Melbourne. Murray was on our flight - and we just weren't ready for what happened when we landed. It was like

travelling with someone like Bono. We'd never seen anything like it. Getting Murray out of the airport felt to us what it must have been like trying to get Jimi Hendrix out of Woodstock. It was absolutely extraordinary."

"I knew about Murray's status as an F1 guru, but this was a real eye-opener," said Rosenthal. "This mob descended on Murray and they wanted his thoughts on winter testing times; favourites for the race; the Melbourne circuit. What about this? What about that? He was firing back answers with great gusto; happy to share his enthusiasm and knowledge. I could barely remember my own address. He was 73 years of age! I thought it was remarkable that he could do that after a long flight."

The Australian Grand Prix in Melbourne's Albert Park felt like the start of a new term for F1 personnel as they gathered in such large numbers for the first time in five months. The ITV crew, in their unfamiliar uniforms, were conspicuous as the new intake for the class of '97.

"We spent the next few days getting ourselves sorted out; there was obviously a massive amount to do," said Duncanson. "Everyone wished us well, but you could feel there was a lot of pressure. We were aware that people were saying it was going to be rubbish; the BBC had done it so well - it was real rose-tinted stuff. We were putting commercial breaks into the races, which no one liked - even us. The tension built, and by race morning I have to admit we were all pretty nervous.

"We went down for breakfast on the Sunday morning, and no one's speaking. We just sat there. Stomachs knotted. Not really feeling like eating. You could read the thoughts: 'Bloody hell, hope this is going to be OK; what will people think?' Murray walks into the breakfast room and notices that nobody is saying a word. So, he wanders over to the breakfast buffet and he starts commentating.

'What will Murray have? Hmmm! Murray's looking at all the cereals. There's cornflakes. Look at that! There's muesli. No! Murray's not going to have cereal. He's going for porridge. Incredible!' We're sitting watching this as he assembles his breakfast, talking all the way. By the time he reaches the table, we're in hysterics. Completely broke the tension. We were ready to roll." ○



EXTRACT FROM:
Murray Walker: Incredible!
by Maurice Hamilton
published by Bantam Press
on November 11. Motor Sport
readers can pre-order their
copy now via our website.



Lean fighting machines

Following a year's break, Silverstone once again hosts a round of MotoGP – your chance to bid Valentino Rossi a fond farewell

British Grand Prix – MotoGP, August 27-29

THE BANK HOLIDAY WEEKEND AT the end of August is a busy one with Silverstone hosting Round 12 of the 2021 MotoGP season. Suzuki looks as though it might finally have a foothold in the championship with the introduction of its newest update while Ducati is riding high following the Austria double-header suited to its Desmosedici.

Championship leader Fabio Quartararo still holds a comfortable cushion over his rivals in the riders' standings, but the Yamaha man still has a long road ahead until all others are mathematically out of contention for the crown.

Though he was victorious at Assen in the Dutch TT prior to the summer break, Quartararo hasn't taken pole position since the Catalan Grand Prix in Barcelona back in June, with KTM, Honda and Ducati all winning since then too.

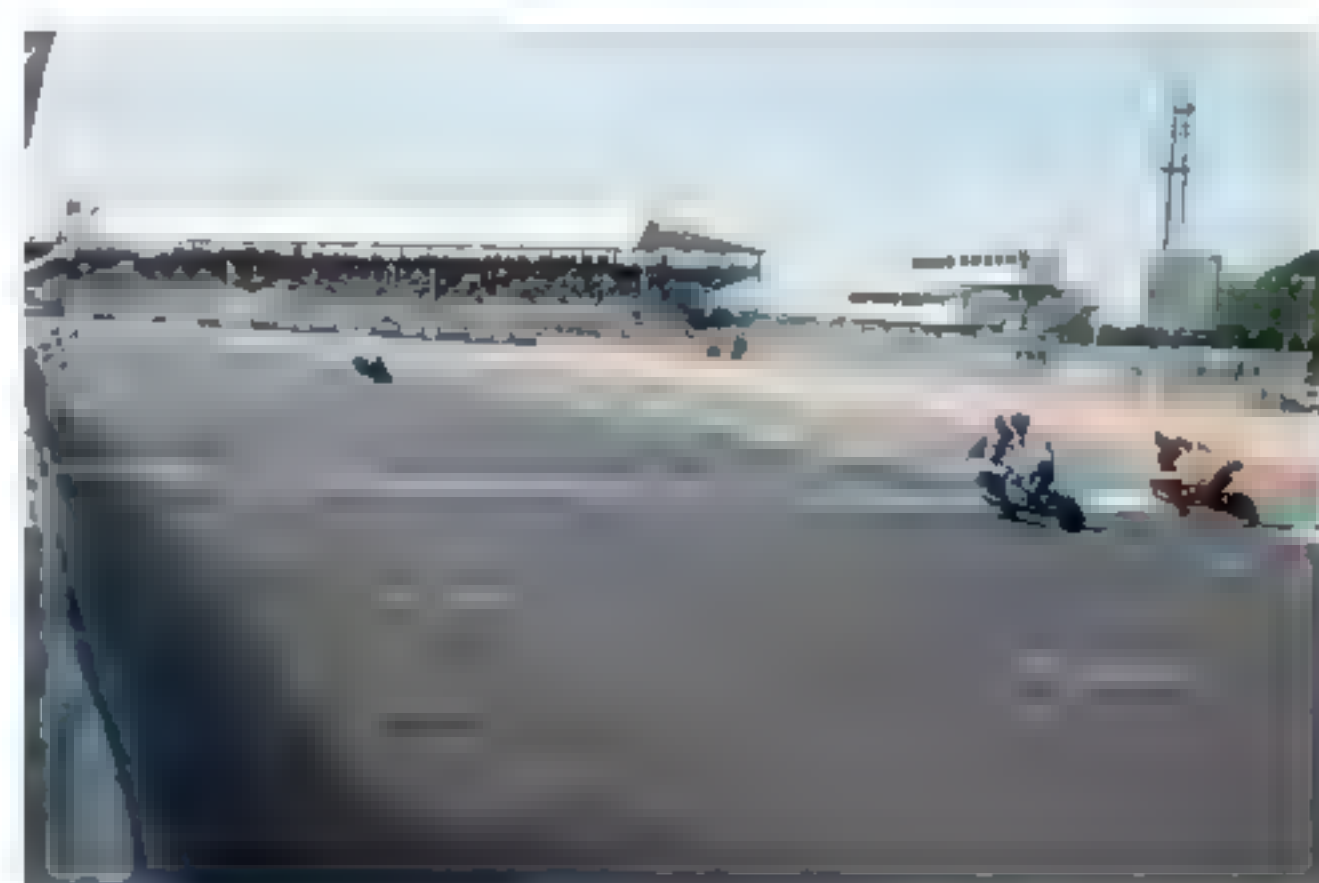
Following his announcement ahead of the Styrian GP, Valentino Rossi's farewell tour continues, and tickets are being snapped up fast for The Doctor's final British GP. While the Copse B – VR46 grandstand has sold out, there are other options for you

to take in all of the action from the Silverstone stands, with tickets from £75 on Sunday.

The Northamptonshire circuit was a conspicuous absence from the MotoGP calendar last season due to Covid but returns after a year away with a lot to live up to.

The 2019 edition was one of the most exciting races of the season as Suzuki's Álex Rins stole victory on the line from Marc Márquez by just 0.013sec, one of the closest finishes in MotoGP history.

As the second half of the season ticks away, time is running out for riders to secure their futures for the 2022 season with several seats still up for grabs.



It doesn't get much closer than this... Rins pips Márquez at Silverstone in 2019 by 0.013sec

SNETTERTON 300 – BRITISH SUPERBIKES

September 3-5

British Superbikes head to Snetterton for the penultimate round of the main season and one of the final chances to ensure riders make the cut for The Showdown. Tickets are still available across the weekend for fans hoping to head back into grandstands.

DUTCH GRAND PRIX – FORMULA 1

September 3-5

The Orange Army descends on Zandvoort for Formula 1's return to the dunes and the first Dutch Grand Prix since 1985 (which Niki Lauda won). Will Max Verstappen send the home fans into a frenzy, or can Lewis Hamilton deny a popular victory?

BRITISH GT FEATURING GB3 AT OULTON PARK

September 11-12

Newly rebranded GB3 racing supports the usual British GT contingency at Oulton Park. Carlin's British driver Zak O'Sullivan has dominated the GB3 season, but Arden's impressive Pole, Roman Bilinski, is yet to finish outside of the top five since joining the series mid-season.

KENT OUTLAWS AT LYDDEN HILL

September 11

Lydden Hill hosts a helping of oval racing with Kent Outlaws heading to the circuit for the first time this year. Hotrods and Minirods alike will be pounding round all afternoon (3pm-6pm) with multiple classes and races across the event.

GOODWOOD REVIVAL

September 17-19

The ever-popular Revival makes its comeback in 2021 after an enforced absence last year. With classic automobiles and a vintage dress code, the Revival is a staple in the UK motoring calendar and a must-visit for any fan of motoring's golden age.

MORE SEPTEMBER EVENTS

September 3-5 World Superbikes, Magny Cours

September 9-12 WRC, Rally Greece

September 18-19 IndyCar, Laguna Seca

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Return to Defender

A collaboration between recycle-minded watchmaker REC and Land Rover custom-builder Arkonik takes the road less travelled

ALTHOUGH LAND ROVER'S 'NEW' Defender seems to be gaining some serious traction, demand for original 90 and 110 models shows no sign of waning - in fact, it seems that many 'Landy' enthusiasts would rather have a 'new old one' than a 'new new one'.

As a result Somerset-based Arkonik is doing a roaring trade selling its meticulously restored and upgraded 1980s and '90s versions in the UK after almost a decade of building them primarily for the North American market, to which it has shipped around 300.

Arkonik was founded in 2007 by engineer Andy Hayes who, after being hospitalised for two months due to a motorcycle accident, recuperated by restoring a beaten-up 1983 110 and driving it around Europe.

He built a second on returning and, after selling it with little effort, realised the potential for a business that would not only restore 1980s and '90s Land Rovers to better-than-new state but would improve them with contemporary enhancements to make them more practical and pleasurable to use in the modern world.

The plan coincided nicely with the fact that vehicles of 25 years-plus may be imported into North America and Canada as classics without having to meet the latest safety criteria - and, while the Jeep may be the patriotic choice, Land

Rovers have long been loved by enthusiasts throughout the continent.

Having enjoyed success sending his resto-mod creations across the Atlantic, Hayes decided to take advantage of the hype surrounding the new Defender and re-launched Arkonik sales in the UK and Europe last year.

He set the ball rolling by unveiling a comprehensively restored long-wheelbase Defender, 'B379 UJO', which is powered by a 6.2-litre Corvette engine and has been luxuriously upgraded inside and out.

It has become a celebrity in Land Rover circles - a fact now marked in a collaboration with Copenhagen-based REC, the watch firm established in 2011 by Jonathan Kamstrup and Christian Mygh to specialise in building timepieces incorporating salvaged components.

To that end, the RNR Arkonik watch is being made in 302 examples, each with an aluminium dial punched from UJO's old rear door removed during restoration. The chapter ring, small seconds counter and rubber strap are all in a similar hue to the vehicle's Stratos Blue, the crown protector is based on the look of its radiator grille and the back of the steel case is etched with the pattern of its alloy wheels.

And if you want a matching Arkonik Land Rover to go with it, head to Frome - with around £200,000 to spend.

RNR Arkonik, £1007. recwatches.com



THERE ARE ANY NUMBER OF VINTAGE-look, three-hand watches on the market with black dials and luminous markings, but one occasionally jumps out as being more covetable than the rest. The Recordmaster II is a delightful 40mm revival from the 1950s, which is being made in just 90 examples to mark the 90th anniversary of the Delbana dial name. Never heard of it? It doesn't do much in the way of marketing - hence, perhaps, the reasonable price. And you still get a decent automatic movement and a sapphire crystal case back.

Delbana Recordmaster II, £700. delbana.ch



FORMER MORGAN DESIGNER MATTHEW Humphries has produced a raft of interesting watches since he established MHD in 2014, the latest being the Streamliner. Humphries asked customers to choose a decade as a starting point for a new model, which is why the Streamliner takes inspiration from the 1930s. Neat details include the DLC-treated finned case and chromed hands, while the Miyota mechanical movement offers a power reserve indicator. Just 400 will be available.

MHD Streamliner, £850. mhdwatches.com

Precision is written by renowned luxury goods specialist Simon de Burton

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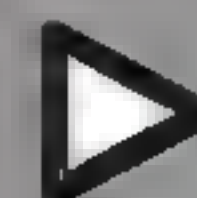
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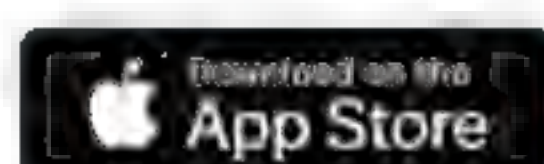


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THE MOTORSPORT INTERVIEW

David Richards

From his early days as a spectator, the Prodrive chairman and head of Motorsport UK has lived and breathed racing. Here he talks bust-ups with Colin McRae, his failed Formula 1 plans and the simple joys of British rallying

WORDS: SIMON ARRON PORTRAITS: RICHARD DAVIES



WHEN HE LAST SPOKE at length to *Motor Sport*, in September 2007, a central topic for Prodrive CEO David Richards was his firm's planned arrival in Formula 1, with chassis and engines purchased from McLaren and Mercedes. Or so he thought. That was torpedoed by a governmental U-turn on customer cars and other factors, so Richards has yet to spearhead a grand prix team of his own (though he has done so for both Benetton and BAR-Honda).

Termination of the F1 project was hardly the trigger for a quiet life. Before we sit down to chat, Richards offers a guided tour of the Prodrive building, located close to Junction 11 of the M40 in Banbury. There is also a secondary hub, in Milton Keynes, and Prodrive today has a 500-strong workforce. Most people in the sport know about the company's rally roots, its Aston Martin GT programme and various successful touring car campaigns, but it also produces high-end Hummingbird folding bikes, electric trucks and the BRX Hunter cross-country rally contender. It has collaborated with the British America's Cup

team, conducts a fair amount of road car work, is involved in the aerospace industry, working on jet engines, electrification programmes and the interior fittings of private jets, and also has a busy restoration programme, in particular with a few of its own bygone rally cars. It produced ventilators when such things were in desperately short supply as the Covid pandemic first hit - and at the time of our visit was also developing the internal mechanisms for lateral flow test machines. And while his company does all this, of course, he has also served since 2018 as chairman of Motorsport UK, Britain's national sporting authority.



David Richards was Tony Pond's co-driver at the 1976 RAC Rally in the British Leyland-run TR7

"Motor sport is perhaps 30 to 40% of Prodrive's turnover at present," he says, "and the rest is completely diverse. I often wonder what people think when they drive past and see our name on the building. I'm sure they assume we produce golf clubs."

Motor Sport: *Prodrive's expansion has been built on success in motor sport, but was there a light-bulb moment that persuaded a young lad from North Wales that this was what he wanted to do with his life?*

David Richards: "The RAC Rally used to pass close to my home. We lived quite near to the Clocaenog stage and my father would take me and my three younger brothers. We'd wait for hours and watch every car, right down to the army Land Rovers that were usually last to come through. I guess that was about 1966. I was mad keen on photography too, and took lots of pictures that I developed at home in my bedroom. It became an annual ritual and I think that was the trigger.

"I had a 50cc motorbike when I was 16, largely because I lived on a farm in the middle of the countryside - there were no buses or anything, so I needed the bike to get around. But I was interested in the mechanical side.



At that age I also bought an old Frogeye Sprite from a farmer, then stripped it down and rebuilt it in one of our barns. I painted it bright Bahamas Yellow, which was very fashionable at the time. That's the car I was driving when I met my future wife, Karen. There's a sequel to this, too, because I had no idea what to buy her when we celebrated our 25th wedding anniversary. Eventually I settled on a Frogeye, then had it restored and sprayed the same colour."

M You passed your driving test on your 17th birthday and qualified as a pilot not long afterwards. Explain...

DR: "I'd done a lot of driving on farm roads at home, so knew the basics, and my father was a member of the Institute of Advanced Motorists and had given me some useful tips. My parents were away on holiday, so for my 17th birthday I booked a test slot, took a couple of lessons in the morning and

passed in the afternoon. They knew nothing about it until they got home and found me driving my mother's car!

"With the flying, through school I was offered the chance to spend a weekend with the RAF at Biggin Hill. It sounded like fun, so four mates and I went down on the train. The RAF was on a recruitment drive at the time and offered to pay for me to attend flying school over the summer. I was 17 on June 3, began flying lessons before the end of the month and qualified as a pilot at the end of July.

"You could rent small planes then, so Karen and I - age 16 and 17 - would fly around North Wales waving to people or dive-bombing her parents' house."

M Once you had a driving licence, did you start travelling to watch rallies?

DR: "I didn't, actually, because I'd become more interested in competing than watching.

I'm not very academic and quite dyslexic, which didn't help me at school, but I was pretty good numerically so ended up doing articles as a chartered accountant - and at the same time began competing on rallies. I crashed a few times early on and realised I couldn't really afford to do that, so switched to co-driving, turned out to be OK at reading maps and would be out on road rallies in North Wales almost every weekend.

"I was then invited to do some stage rallies and in 1974 Tony Drummond and I won the first Autosport National Championship with an Escort, which meant lots of travelling around the country.

"On Friday mornings I'd make myself busy at work seeing a few clients, then skip off at lunchtime without telling anyone where I was going. I made sure people had seen that I was around. If my principal was looking for me after lunch, colleagues would say, 'He's definitely here somewhere,' but by that stage I'd be halfway to Scotland or wherever, and of course there were no mobile phones." **Q**

"Motor sport is perhaps 30 to 40% of Prodrive's turnover"



M *Your competitive career was bright but fairly brief. After that success in 1974 you had some good results with drivers such as Andy Dawson and Tony Pond, but enjoyed your greatest successes – including two victories on the Welsh Rally and a couple on the Acropolis – with Ari Vatanen, culminating in the world championship title in 1981. And then you stopped. Was it simply because you felt you had nothing more to prove?*

DR: “I retired the day after the championship ended. Things had become pretty tense by the middle of that year. I was responsible for sorting out the sponsorship with Rothmans, as well as the co-driving, and Ari and I had been together for three years in a competitive environment, which was pretty hard going. I’d said to him that we needed to win that year because I didn’t think I could go through anything like that again. There was the financial stress, the mental stress – and by now Karen and I also had two young kids. Ari and I had some pretty serious accidents too, so I was beginning to wonder whether this was a sensible way to carry on.

“I’d already started thinking ahead about a commercial role and developing a business, as I really wanted my own team. That was the idea. I’d been to see Rothmans to tell them that I wanted to stop at the end of the year and asked whether there was any chance I might be able to do some consultancy work for them. They’d just agreed to sponsor the March Formula 1 team the following year, so they said, ‘OK, go and sort that problem out.’ In the end I was very involved in steering them towards Porsche in the World Sportscar Championship and eventually away from F1.”

M *It’s quite a leap from sponsorship consultancy to setting up a new team...*

DR: “I was very exposed to Porsche during that period and knew they were going to build the 959 for rallying in Group B. I thought it would be good to set up a team around that.



It was second place for Vatanen and Richards at the 1981 RAC Rally – but the world title was won

I spoke to Rothmans and Porsche, both of whom liked the idea, but the car was still in the early stages of its development. I asked about a lightweight 911 to get the programme going and they built 20 examples of the 911 SC RS, of which we had six. That's how we started in 1984, with Henri Toivonen in the European Championship, Saeed Al-Hajri in the Middle East and drivers such as Billy Coleman on other events.

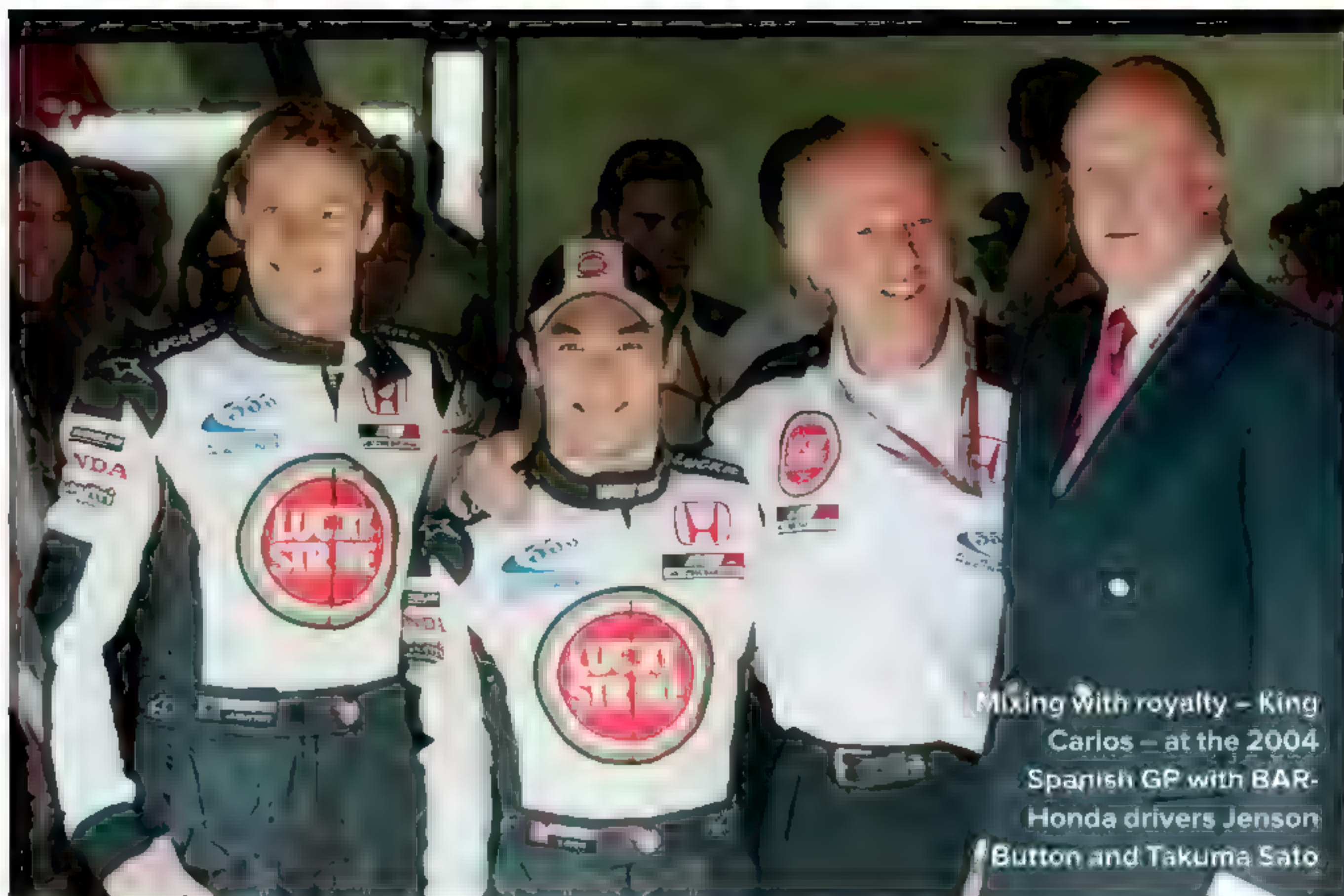
"It eventually became clear that the 959 would be more suited to Dakar-type events and we built the first car, for Saeed to use in the 1985 Pharaohs Rally. He won, while the Weissach-built 959 of Jacky Ickx went up in flames on the first stage... so it's our car that's now in Porsche's Weissach museum!"

M Over the years, you have been involved in F1 on a personal level, while Prodrive has built and/or run cars in almost everything, from the World Rally Championship and Dakar to Aussie V8 Supercars, the British Touring Car Championship and rallycross - often simultaneously. Are you a good juggler or a good delegator?

DR: "I think I'm a good delegator. I've always had a great team of people around me and we've been successful quite quickly at most of the things we've done. But it's interesting, because by far the most difficult environment I know is the hospitality industry [he and Karen own two hotels, 200 yards apart in St Mawes, Cornwall]. The good thing about motor sport is that we're measured very clinically by a stopwatch. With a restaurant or a hotel, the customers - as delightful as they are - all have enormously varying opinions about what is good or bad. I found that an intriguing challenge, but it still boils down to having great teams and a common vision of what they're trying to achieve."

M As well as building and running Aston Martin racing cars through Prodrive, you also served as chairman of the company's road car division for a while. How did that come about?

DR: "I've been passionate about Aston Martin from my early days - as soon as I could afford to, I saved up and bought a DB6 Volante that I still own. I always wanted to race them too, and used to go to the factory every year in a bid to persuade them to invest in a racing programme, which we would run. Eventually that paid off. We got the deal in 2003 when they were under Ford ownership, and we developed the DB9. About four years later, a character came to see me about buying a



Mixing with royalty - King Carlos - at the 2004 Spanish GP with BAR-Honda drivers Jenson Button and Takuma Sato

racing car and I took him out for dinner. While we were chatting, we talked about Aston being for sale - a little worrying for us because our contract wasn't very robust and I didn't know what it might mean in the longer term. And he said, 'Well, why don't you buy it?' The simple answer to that was that I didn't have \$1bn, which was the asking price at the time. He just said, 'I'll find you the money, don't worry about it.' It's a long story that could be the subject of another book one day, but that's how it started. I then found some Kuwaiti investors, we sorted out the debt and part of the deal was that I ended up

with a shareholding in the business and acting as chairman for seven years.

"I left at the end of 2013 after we'd had a tough time, selling fewer cars for a couple of years than the company had done historically. We were short of cash, fresh impetus was required, Investindustrial took a significant shareholding and that was the obvious moment for me to stand down. Things had been tough at Prodrive too because we'd been through the recession in 2009 and we'd lost Subaru because the financial climate led them to withdraw from rallying, so there was plenty for me to focus on here."

M One of the key themes to your Motor Sport lunch with Simon Taylor in 2007 was Prodrive's future arrival in F1, something that was on the cards...

DR: "Yeah, I'm still waiting! We hadn't signed a contract, but we had an agreement to run McLaren chassis and Mercedes engines."

M Is it true that the FIA, under Max Mosley, later informed you that Prodrive would only be considered if you ran Cosworth engines?


DR: "Exactly that. It got to the point that the whole thing became untenable, but I suppose the sense of disappointment that we didn't continue is offset by the fact we might have been bankrupt by now if we had. Of the three new teams that entered F1 in 2010, none lasted very long. It's a fairly onerous thing to take on. Perhaps fate took a hand and it was the right answer for us. Who knows?"

M Any sense of unfinished business?

DR: "No longer. There has been too big a gap now for us to consider F1 and the ways of getting in are different than they were. We could become involved in certain ways and I've been asked whether I'll do stuff on a personal level, but I think that time has gone."

M Which is more challenging, running teams at world championship level or running a sport at national level - as you do now as chairman of Motorsport UK?

DR: "It's a different skill set, but it's all transferable. The good thing about it, I hope, is that you have the respect of the competitors you're governing, because you've been on the other side of the fence and know what it's like."

"When I took over at the start of 2018, it was a traditional governing body, one that was there to regulate, to write the rules and to supervise the whole thing. It's almost a monopolistic situation as well, because your licences come from us and there's a tendency for that to build into arrogance and a remoteness from your customers. And if your customers diminish, the sport diminishes" 



Predive has diversified, training into aerospace, marine and composites, as well as making ventilators for the NHS

and you no longer have a role to play. If you pick up a Blue Book [the regulatory manual], I've no idea how many pages there are but it's pretty thick. It gives all the rules to the clubs, to the organising bodies, all these different things, telling them how to organise a car race, how to run a rally, what the rules should be and all the technical stuff, but there is not one word about promoting the sport, how to communicate with your potential new customers, how you bring in new generations. That bit was missing completely, so we turned things on their head and said, 'Look, our responsibility is primarily to promote the sport, to develop it and make sure it's appropriate for future generations.' Many sports have the same set of problems, in that participation among younger age groups is declining. We need to address that. It's a cultural change and there has been a big shift in the past three years, but it's still nowhere near where we need to be.

"I've said I'll do another three-year term and by the end of that I hope we'll be in a good position. The measure of that will be whether we have an increasing number of licence holders, with more young people involved.

"We're looking at building a hydrogen car for Le Mans"

The professional side can look after itself, they don't need us to interfere - the reality is that work needs to be done at the grassroots level.

"We've got to look at the cost of events as well. We've allowed the bureaucracy and necessary safety standards at the highest level of the sport to percolate down, where they're a burden on the lower levels - and that's fundamentally wrong. Let's take safety belts and seats. We have rules and regulations that require us to change safety belts and seats on a cycle - previously five years, now 10. But when did anyone ever change their safety belts in a road car, which tend to last for

donkey's years? So why would we ever think safety belts in race cars are inherently dangerous after they reach their 10th birthday? There are lots of areas like that we need to consider more carefully.

"Governing bodies still have a lot to do, but we have a direction so we just need to be consistent in our approach and press on.

"It's not easy, though. I've got a son in London who works for Formula E, but doesn't own a car. I can remember when I was 16 and all I wanted was a car, but he says he doesn't need one. He'll call an Uber, or take the train

if he's coming home for the weekend - and this is somebody actively involved in racing. The jump from there to him perhaps wanting to participate is quite significant. We have to look at all these areas, but I don't have a magic wand or an instant one-off ingredient that's going to change anything. It's just a sensible process of debate and discussion.

"We have to look at the participation of women in motor sport, too. It is still low - and there's no logic to that. We need to treat children equally from an early stage and give girls the opportunity or the belief that they can succeed at engineering, or we'll never get more female engineers, let alone participants. We've got to think about diversity in a broad way. It might take another generation, but I had a new granddaughter two weeks ago and hopefully she might reap the benefits of some of the things we're doing now."

M *She might become the first female Formula 1 racer since Lella Lombardi to score in a World Championship grand prix...*

DR: "That's what my son said!"

M *Our sport doesn't exactly fit the wider perception of 'environmentally clean', does it?*

DR: "We've got to be conscious of that and find ways of addressing it. We're looking

currently at how we can introduce renewable fuels into the sport. Can we get Cadet karts to run on biofuels or, ideally, an e-fuel and roll that out into other elements of the sport? We need to reduce our carbon footprint and make the sport more relevant in the longer term. At Prodrive we're looking at the possibility of building a hydrogen car to run at Le Mans in 2024 - that's one of our key goals."

M *Going back to rallying, the British Championship was incredibly strong in your co-driving heyday, and then later when Colin McRae and Richard Burns broke through, but it has been through some lean times of late. How do you see its future?*

DR: "We've got a challenge with the BRC, if I'm honest, and I haven't got the immediate answer. We have formed a small group to think about it and to discuss what's required. It has suffered from a lack of profile and reduced interest since the McRae/Burns era. Event organisers are exceptionally good, but if their rally takes place in Kielder or somewhere else in the middle of nowhere, it promotes itself naturally to aficionados but doesn't really broaden its reach.

"It goes back to what I was saying about the lack of advice about promotion in the Blue Book. Look how things are done at the Ypres Rally, where everything is based in the town centre, the whole area knows about it and it becomes a huge festival. I do think the BRC has suffered from hiding away in remote locations and not engaging with the broader public. That reduces the event's commercial value, so you get reduced investment and less coverage - it's a vicious circle."

M *The events were tucked away in the middle of nowhere when you were competing in the 1970s, but seemed to draw massive crowds...*

DR: "True, but there wasn't such a plethora of activities for people to do in those days, so they'd come out to watch. And that's when a few mates would set out for three or four days, with flasks of coffee and sandwiches, sleeping in the car so they could follow the RAC Rally. People have become used to sport being served up on TV, or even their phone, so we've developed a lazier style of participation."

M *Were you aware of competing in a golden era, or did it all seem normal?*

DR: "I don't think I was aware, but it's only when you reflect and chat about it with friends that you appreciate what great days they were. I'm sure we all look back and think, 'If only it could still be like that.' Perhaps there are some ingredients that could be reintroduced. Mistakes have been made, though it's only with



Richard Burns' single WRC title came in 2001 in the Impreza - a golden era for British rallying

hindsight that they have come to appear as such. Look at the way the World Rally Championship has been compressed into shorter routes. That came about 20 or so years ago because safety was the key issue - people walked into forests and stood wherever they liked. Fortunately there weren't too many serious incidents, but the whole thing was on a knife edge.

"Quite correctly at the time, Max Mosley ordered a different approach and we ended up with centralised events that were easy to officiate. We have much better communications technology now, so could we not look at world or British championship events that took a more linear route, and perhaps travelled into towns? That would bring its own concerns, because of the extra mileage and the type of cars involved, so you have to think carefully. It's important, though, to keep an open mind."


M *There must have been a few spectacular bust-ups with Colin McRae. Care to pick one?*

DR: "There were a few of those... Colin was a complex individual in many ways, because his

ability in the car was quite extraordinary yet out of it he could be relatively shy. Give him a couple of beers, however, and he could be different again. Socially he was great fun, very thoughtful and caring about things, but you're right that there were some enormous bust-ups, because he was strong-willed and, as you might imagine, extremely competitive. I suppose the most public one was in the streets of a seaside resort on the Costa Brava [during the 1995 Catalonia Rally, when Prodrive imposed team orders favouring teammate Carlos Sainz]. But that's all in the dim, distant past now - we ended up as great friends and working with both him and Richard Burns was an absolute delight.

"I'm not sure how many people realise that Colin was incredibly smooth in the car - really, really mechanically sympathetic. He understood that side of things very well. During his first couple of years with us, in fact, we had him helping in the workshop here. He drove the service van for Markku Alén when he was in the team and worked with the service crew - he knew his way around the car better than any other driver."

M *One more thing. In the recent past I have quite often bumped into you at events such as Race Retro, wandering around among the public, looking at the cars and the memorabilia stalls. For all the success you've had in motor sport, I get the impression that the passionate kid from Ruthin is still in there somewhere.*

DR: "He is and I think that passion carries you through life. If you didn't have it, if you didn't wake up in the morning feeling enthusiastic about the day or weekend ahead, what would be the purpose of carrying on?" 



Keeping warm at the RAC Rally in 1994 with Colin McRae, centre, whose world title was just a year away

MY Greatest RIVAL

**DEREK BELL
ON CLAY REGAZZONI**

Although their paths rarely crossed in Formula 1, in European F3 and F2 earlier in their careers they were inseparable, culminating in a slug out for the 1970 F2 title



I HAD MANY GREAT RIVALS OVER the years but the one who stands above the rest has to be Clay Regazzoni. He was my nemesis in both Formula 3 and Formula 2 in the late 1960s and early '70s.

Clay was a hard racer and we had some mighty battles. You never knew exactly what he was going to do - there were many great tussles. The last race of the 1967 Formula 3 season is a good example of this.

In Formula 3 Clay was with Tecno and I had my Brabham BT21. At Hockenheim in October we went to the Preis der Nationen, which was a one-off championship of national teams, so there was a lot at stake. It was a crazy race, all of us nose to tail on those long straights in the forest. It was an accident waiting to happen.

As we made our way into the stadium section on the last lap Clay came past me, took Jean-Pierre Jabouille in the Matra off at the right hander, came across the grass and took me out at the left hander, managed to scrabble past Jean-Pierre Jaussaud, who was also in a Matra, and by now Clay had no bodywork left on his car. He finished second to Kurt Ahrens in another BT21 by less than half a second.

In 1970 we were battling again, in Formula 2, and I should have beaten Clay to the European Championship in the Wheatcroft Racing Brabham. It was a little private team backed by Tom Wheatcroft and my stepfather and based at a farm in Sussex. We only had one engine while Clay

seemed to have as many engines as he wanted in the works Tecno. It was an epic battle that lasted all year long, our little team up against the Tecnos, and Clay was a very, very tough rival.

I thought I had him beaten when I won at Montjuich Park in Barcelona, and he was down in eighth, but he still overhauled me by the end of the season. Yet again he was my nemesis. He was the one I had to beat and you always had to keep a close eye on him. He took a lot of chances, some big risks. Everything he did was flat out while I was maybe a more balanced driver.

With Clay on the grid you just knew he could win. He was always on the limit, and I was pleased he did so well when he went to Formula 1. The irony here is that in 1972 I joined Martini Racing which ran the Tecnos in Formula 1 and by this time Clay was at Scuderia Ferrari, so we were at opposite ends of the grid.

I always admired him, always respected him, and we became very good friends. He was a cracking bloke. The accident at Long Beach in the 1980 US Grand Prix that left him so badly injured was just such a tragedy and then the car crash on the road in Italy was such a sad ending."



Head-to-head

Bell	vs	Regazzoni
1	WINS*	3
2	POLES	3
1	FASTEST LAPS	1
8	PODIUMS	8
61	POINTS	62

Driver stats for the Formula 2 European Championship 1968-70. *Outright victories. Both received one extra maximum score in races won by ineligible 'graded' drivers.

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Flashback...

For two decades **Maurice Hamilton** reported from the F1 paddock with pen, notebook and Canon Sure Shot camera. In this 1987 scene, Honda turns up the awkwardness to max at a press conference

IMUST HAVE ATTENDED HUNDREDS OF press conferences across the years, but nothing compared to this one on Friday, September 4, 1987.

The scene is the garden of St Georges Premier, a restaurant made even more desirable by its setting, deep within the park at Monza. The location was chosen because it was neutral ground, away from the Formula 1 paddock. Our host, the Honda Motor Company, did not wish to insult Williams Grand Prix Engineering further by making public a decision to terminate the supply of engines. Frank Williams knew all about it, of course, but didn't need reminding of how Honda planned to sever this technical collaboration one year early.

It had been a successful relationship in terms of performance but not, in Honda's view, when it came to results. Williams had won the Constructors' Championship in 1986, but Alain

Prost and McLaren-TAG had nicked the drivers' title at the final race. Honda saw its failure to claim the Drivers' Championship for the first time as the result of Williams treating Nigel Mansell and Nelson Piquet equally - or, in Honda's view, allowing the drivers to squabble among themselves. Even worse, Williams had resolutely refused to take on board a Japanese driver (Satoru Nakajima).

Another factor was Honda's obsession with Ayrton Senna. When agreeing to supply engines to Lotus and Senna for 1987, it was Honda's belief that the combination of powerful engine and enormously talented driver would wipe the floor with Williams. Come this 11th round at Monza, Williams had thrashed Lotus six wins to two and had been fastest in the practice session immediately preceding this lunchtime press call. All told, it was a combination of awkward circumstances guaranteed to test Japanese inscrutability.

Honda had not helped itself with the set-up. The temporary platform was essentially a raised board, barely wide enough for its task, and covered by a sheet. Adding to their obvious discomfort, the four representatives were shoulder to shoulder in basic garden chairs, with not even a table between them and an audience - largely sympathetic towards Williams - keen to skewer their hosts and then push off for lunch.

The halting words of Mr Yoshitoshi Sakurai, managing director of Honda F1, were received in a stony silence accentuated by the hushed verdant surroundings. The inevitable awkward questions from the lawn were side-stepped by Sakurai-san leaning heavily on the language barrier and using the word 'mutual' a great deal.

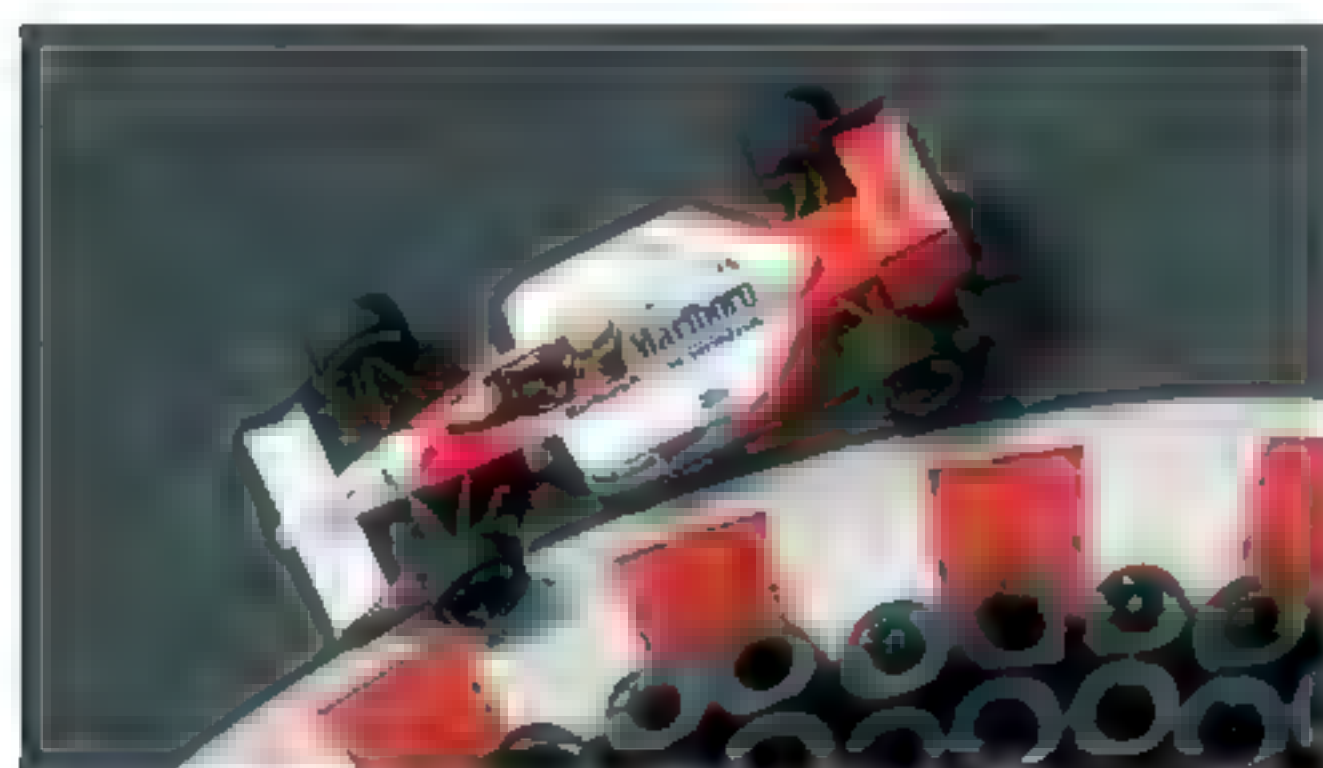
The ambient temperature at that moment was around 27°C, and yet this had to be one of the chilliest F1 press conferences on record.



LETTERS

THE HAMILTON, VERSTAPPEN ACCIDENT AT SILVERSTONE TO ME ILLUSTRATED what a corner F1 has driven itself into with its stewarding standards. This was obviously an incident the stewards needed to study. There are a number of different opinions. If it was a racing incident, I still think Lewis was the main culprit and should have received a drive-through penalty. However, the real issue is the two penalty points that were added to his licence. Lando Norris received two licence penalty points just for defending his position in Austria and this is where the problem lies. The stewards are involving themselves in far too many incidents. Stewards awarding penalty seconds like confetti is doing real harm to F1 - they could almost be said to be bringing the sport into disrepute - and the FIA needs urgently to sort it out. When I became interested in the sport in the mid-1950s, it was called motor racing. I believe it still is, and the participants are called racing drivers. Please, let them race.

MARK SHORE, WOOBURN, BUCKINGHAMSHIRE



McLaren's hugely successful MP4/4: many victories, many contributors, many claims...

AS A SENIOR MEMBER OF THE MCLAREN design team in the 1980s and '90s, and as the project leader for the forward monocoque, nosebox and front suspension for the MP4/4, I read with interest Gordon Murray's recollections in September [*The Motor Sport Interview*] of how 'he designed' the car.

I can only imagine Gordon and the rest of us in the design team were living in parallel universes, as his version of the events of late 1987 and early '88 is not the same as mine, nor indeed any of my former McLaren colleagues I have spoken to on the subject.

Gordon himself appointed Steve Nichols with responsibility for the design and development of all turbocharged cars in 1987 and '88, and notified all McLaren management and senior staff of the fact in an August '87 memo. Gordon concentrated on workload planning, operational procedures and production schedules and was responsible for bringing in Pete Weismann to assist with the gearbox internals. Under Steve, many of us had

specific design responsibilities, but the overall car concept and layout was very much his creation, as can be seen if you compare the lineage with the MP4/3, his previous design. We certainly did not see or refer to any BT55 drawings or even have that car in our minds when designing the 4/4. As well as it being highly unethical to be in possession of, let alone use, such drawings, neither we nor Ron would have wanted to develop a BT55 copy knowing its well-understood problematic history. Why would we?

Gordon is a great designer and has produced some wonderful cars in his time but not giving due credit to Steve for the 4/4 is unfair to him and to many people throughout the team who worked incredibly hard and achieved so much that year.

In reality, no one person designs every piece of an F1 car but Steve was responsible for the concept, design and development of the 4/4, just as Neil Oatley had the same responsibility for the MP4/5 in 1989. There is no doubt that had the car been a failure it would have been Steve's neck on the block.

MATTHEW JEFFREYS, SENIOR DESIGN ENGINEER,
MCLAREN, 1984-2005.

I WAS SADDENED TO SEE THE DEATH OF Carlos Reutemann announced recently [*as reported in Matters of Moment, September*]. In the 1970s I used to make the communications equipment for most of the F1 teams.

Intercom systems were used to talk to the drivers in the pits, to overcome the noise levels, and although we had the occasional radio and used them on Le Mans cars, F1 didn't bother as units were generally too big.

In the late '70s we decided to try a new lightweight radio at a Lotus test session at Silverstone. The driver of the day was Carlos and we made a bit of progress but Colin Chapman had decreed that I had to make the radio voice-operated from the car. After having a go with clever microphones and the best electronics I could muster we realised it would work sometimes, but when it caught the car in front the exhaust noise simply turned it on full time.

After realising the radio wasn't up to much I explained to Colin that we needed to use a transmit switch on the steering wheel. Colin's reply was no, the driver has too much to do to push a button. I argued that Spitfire pilots managed, but Colin's reply was, "They were up in the air with nothing to hit."

Carlos was sitting in my car listening to Wimbledon tennis commentary as an Argentinian girl was doing very well, and I said to him, "Surely you can press a bloody button on the steering wheel when you want to talk on the radio." His reply was, "What does Colin say?" "He says it can't be done." "Well," said Carlos, "if Colin says it can't be done, it can't be done."

Modern F1 steering wheels?

JOHN DAVIES, HAXBY, YORK

CHRISTIAN HORNER HAS SULLIED HIS reputation beyond recovery by his response to the Silverstone incident. There isn't a racer past or present - Rindt, Mansell, Senna, Schumacher, Vettel, Lewis and Max himself, to mention but a few, who wouldn't have gone for it. Senna, Schumacher, Vettel and Max acquired the reputation of aggressive tactics. Lewis didn't give way this time as he has on previous occasions. How can it be anything other than a racing accident?

WILLIAM LEWIS, BY EMAIL





TONY STEWART ARGUABLY DESERVES inclusion among the honourable mentions of the all-rounders feature in July [*Masters of the many*]. The American racer has won championships in NASCAR and IndyCar, achieved a podium finish and several strong drives in the Daytona 24 Hours, and continues to engage in dirt track racing as a competitor. His lack of activity outside the United States shouldn't preclude his consideration in this discussion.

JASON POINTE, ELLICOTT CITY, MARYLAND, USA

I THINK YOUR ARTICLE ON ALL-ROUNDERS [*Masters of the many, July*] is a bit off the mark. All-round racers should be drivers who absolutely excel at the sharp end in a few different disciplines, not just drivers who are able to drive in different disciplines.

Look at IndyCar drivers: they have had to master many disciplines, often in the same championship. If you take a window of the past 50 years you have drivers like Foyt, Parnelli Jones, Mario Andretti, Rutherford, Bobby and Al Unser, who were at the top of the tree in sprint cars, on dirt and asphalt, some in NASCAR, TransAm, Can-Am, and also in IndyCar, on big and short ovals, often tackled in the same season. Then you have Dan Gurney who excelled, and won, in IndyCar, Formula 1, Le Mans and NASCAR, each radically different. Today's permanent road tracks, street courses, short ovals, medium ovals, and superspeedways each have different requirement of car and driver.

Then one should analyse what IndyCar drivers of today face. Running at 150mph on

a one-mile oval, braking for some corners, is a long way from running 240mph on a 2½-mile oval; the commitment level change is monstrous, as is the understanding of and responding to the track changes during a race. Couple that with the skills required to run on bumpy street courses and permanent road race tracks in what is basically the same car and now look at your list, and consider doing all of this in the same season.

A bit different from some of the drivers in your selection.

STEVE ROBY, BY EMAIL

ANDREW FRANKEL'S WONDERFUL LISTER Costin article [*Smooth operator, September*] contained an inaccuracy regarding the tragic fatal accident that befell poor Ivor Bueb. Ivor was not hillclimbing his Cooper in July 1959. He was racing BRP's Cooper-Borgward T51 in the Auvergne Trophy F2 race, at Circuit de Charade. He was thrown out of his Cooper at the Gravenoire multiple apex section of the circuit and died six days later in Clermont-Ferrand Hospital. He is buried in Manor Park Cemetery, London.

BRIAN MORLAND, ST ALBANS

I CAN ONLY REITERATE THE SENTIMENTS IN September's editorial [*The Editor*] regarding historic motor racing buildings. The Ford Advanced Vehicles as well as the Lola buildings next door in Yeovil Road, Slough have both been demolished. When I was an engineering apprentice I used to see GT40s and GT350 Mustangs exit those buildings and Lola single-seaters being towed

down the road. I drew Graham Hill's Indianapolis-winning Lola T90 one lunchtime when it sat outside.

The buildings in Oxford Road, Slough where the Gulf Porsche 917s were maintained are no longer standing, and the bowling alley under which Roy Winkelmann's Brabham Cosworths were housed has been flattened to make way for apartments. The wooden sheds at the back of a pub on the Bath Road where Frank Williams started up are gone too. This is a world with little sentiment.

FRANC WELLS, BY EMAIL

RE THE REVIEW OF RICHARD WILLIAMS' Stirling Moss book [*Extra miles from a well-told story, August*], as a 10-year-old living in South Africa in 1959 I was excited to learn Moss would be competing in the South African GP. But there was never any talk of his antipathy towards racial discrimination, common at that time in the Commonwealth.

Moss returned to South Africa to win in a Porsche and then placed third in a Lotus 18, while in 1962 he was the guest of honour when East London hosted its first world championship GP. In all those visits to my knowledge Moss didn't raise the issue of racial discrimination. I wish he had; more power to Lewis Hamilton on his stance on the issue.

IAN DOVE, HOUT BAY, CAPE TOWN

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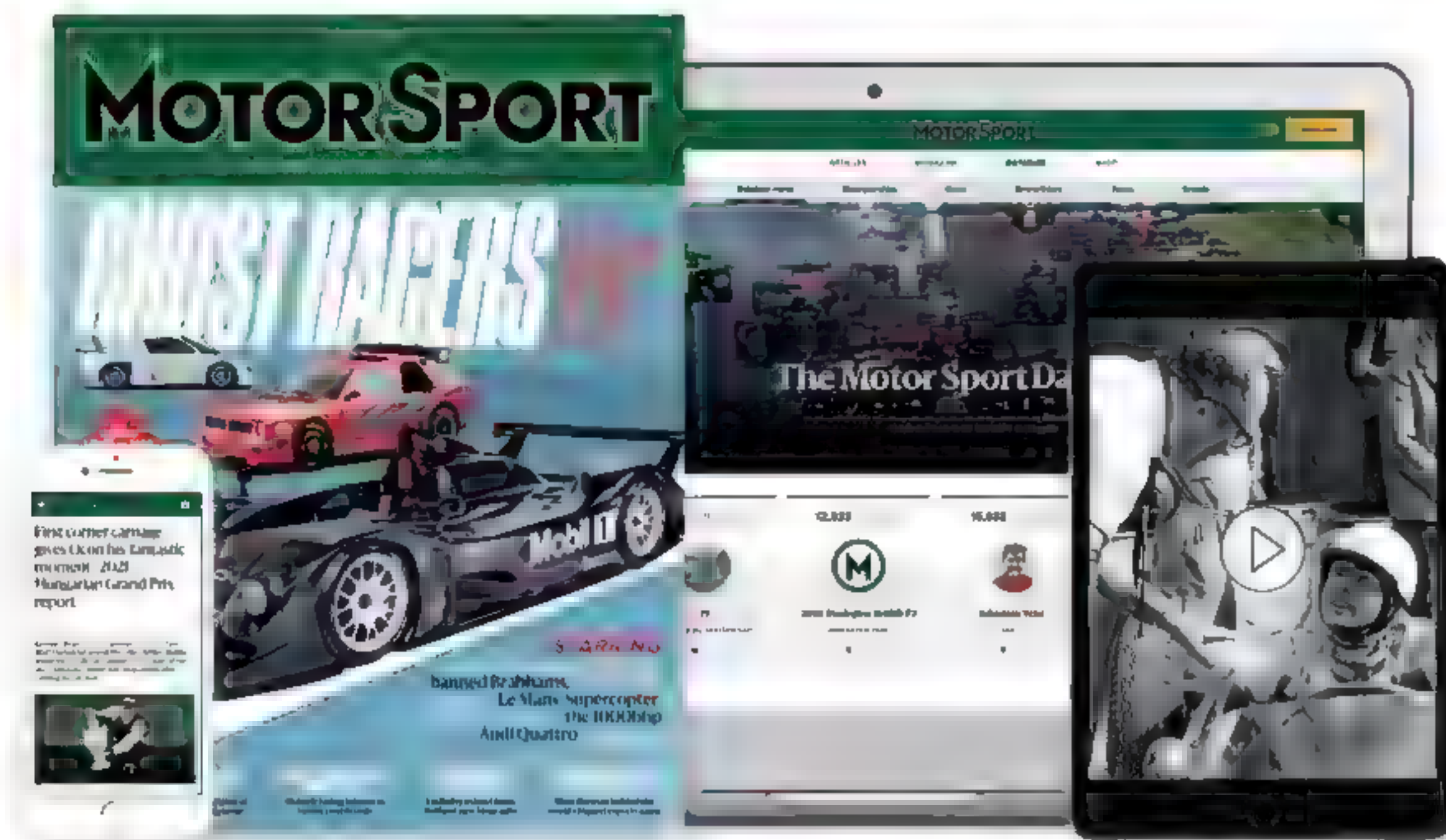
Robb Gravett, in a Ford Sierra RS500, won the 1990 British Touring Car Championship. Despite a disappointing start, he bounced back to win nine times.

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In the 1988 British Touring Car Championship, Steve Soper only made three starts, but he won at Thruxton and was second at Brands Hatch and Donington.

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There is something otherworldly about racing cars that should have made their mark but never reached the grid.

Gary Watkins guides us through motor sport's pitlane of the abandoned, a collection of mysterious machines whose potential was quashed before a wheel was turned in anger

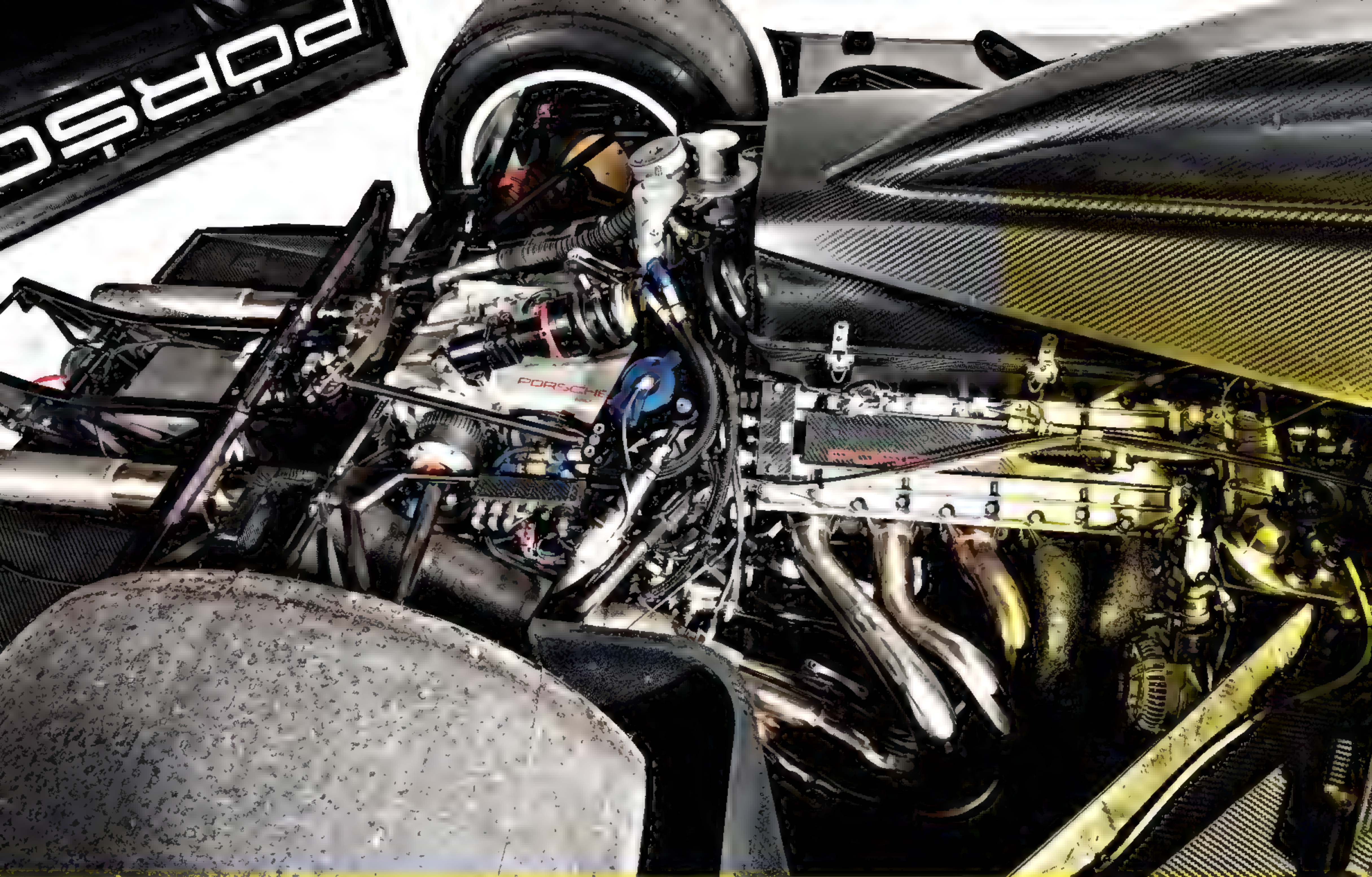


Born

NOT

to

run



▲ For years, Porsche didn't utter a word about the existence of the LMP2000, codename 9R3. It used a V10 engine that had its roots in a stillborn F1 design, which would eventually find a home in the Carrera GT

◀ Toyota's TF110 was designed for the 2010 F1 season but the team pulled out of F1 in 2009

► Once the LMP2000 project was cancelled, the car was not seen until the Goodwood Festival of Speed in 2018

CHAMPAGNE WAS POURED OVER the nose according to Porsche tradition and the car the world was expecting to take the marque back to the Le Mans 24 Hours in 2000 edged onto the Weissach test track. Many of those at the shakedown – certainly drivers Bob Wollek and Allan McNish – were not aware that it had already been decreed that this would be the final run for the car as well as the first.

And so a machine dubbed the LMP2000 joined the litany of unraced cars strewn through motor sport history. Some were simply not meant to be. Which was the case for the LMP2000. It wasn't so much axed as never given the go-ahead. The same went for the Toyota TF110 Formula 1 car, while others were scuppered by rule changes, the cancellation of series or political whims.

The Porsche was developed during 1999 as the firm sat out Le Mans after taking its 16th victory in the French enduro with the 911 GT1-98 the previous summer. Yet a bid for another win in 2000 was never signed off. Porsche's racing department had received the green light to develop a new LMP prototype powered by a V10 engine, but not yet to race it. That was pending.

Herbert Ampferer, the boss of Porsche Motorsport at the time, tells what he calls "a complicated story". "When I came back from Le Mans in '98, the question was what to do for next year," he remembers. "Our chairman, Wendelin Wiedeking, asked me what would it change if we won Le Mans for a 17th time. I had to reply, 'Not a lot.'"

This answer didn't stop Ampferer from presenting a new way forward in pursuit of

another win. He and his colleagues knew that time was up for the latest engine in a line of flat-six turbos that had powered the GT1-98. He proposed a large-capacity normally aspirated powerplant in the back of an open-top prototype.

"A boxer engine like ours was fundamentally inefficient," says Norbert Singer, who led development of the LMP2000 like so many of the great cars that preceded it. "And we saw from our rivals that when you were running for consumption you really needed displacement."

Porsche also came to the conclusion that a prototype was a better option than another exotic GT car that had to be homologated for the road. Singer says that the experiences with the Porsche WSC95, which Joest Racing had taken to Le Mans victory in 1996 and '97, had "proved the potential" of the concept.

The go-ahead was given to build a new prototype around an engine developed out of a Formula 1 research project undertaken in 1994/95, but, says Ampferer, the senior

management in the racing department "were aware that we were most likely not going to return to Le Mans".

Wiedeking had made a telling comment during those post-Le Mans discussions. Rather than trying to win the big race another time, he raised the prospect of doing "something different". That something different turned out to be the 205mph Carrera GT supercar.

Ampferer recalls a meeting around the time that the decision was made not to proceed with the LMP2000, a few weeks before the roll-out. (Singer and his team were allowed to finish and then run the car because they were so far down the line.)

"Wiedeking asked me another question: 'Who is the most famous sportscar manufacturer in the world?' I replied that it was Porsche, of course. He told me to prove it!" recalls Ampferer. "He said, 'We have never built a super-sports car, so instead of going back to Le Mans, let's work on a project that proves that Porsche really is a great manufacturer of sports cars.'"

The next question concerned what components from the LMP2000 might be suitable for incorporation into some kind of supercar. Ampferer suggested the engine and a lot of the know-how. It was, he says, "the birth of the Carrera GT".

The company line at the time was that the need to divert resources into development of the first-generation Cayenne SUV spelt the end for the LMP2000 project. That was part of the reason, explains Ampferer, but the main motive was to turn much of his staff over to development of the supercar. And that had to remain secret. ♦

"What would it change if we won Le Mans for a 17th time? Not a lot"



“When we started developing the Carrera GT, I would say that 50% of the people came from the motor sport side,” he says. “You need a big team to develop a car like that.”

The engine in the Carrera GT, Ampferer suggests, “was more or less” the same as in the LMP2000: “We increased the displacement a little – from 5.5 to 5.7 litres – but the bore/stroke ratio and the length and height of the engine didn’t change.”

And the concept version of the supercar that rally legend and Porsche ambassador Walter Röhrl drove down the Champs Élysées ahead of the Paris Motor Show in October 2000 was at least half an LMP2000.

“The car had the racing engine, the racing gearbox and what I would call a very provisional chassis,” says Ampferer. “Only the outer skin was Carrera GT.”

That was as close as the LMP2000 has ever come to running in public. There were some grainy spy shots of the roll-out, but the one and only pukka LMP2000 wouldn’t be seen out of captivity until the 2018 Goodwood Festival of Speed. And then it was only on static display.

The last Toyota F1 car wasn’t hidden away like the LMP2000. Rather, the TF110 took pride of place in the entrance hall of Toyota Gazoo Racing Europe (formerly Toyota Motorsport GmbH) in Cologne. It has subsequently found its way into a kind of

museum under the organisation’s wind tunnel. Yet just like the Porsche it was highly improbable that it would ever have raced.

The Japanese manufacturer’s 2010 contender was designed and built, but the writing was on the wall for the car long before the announcement of the end of Toyota’s eight-season Formula 1 sojourn. TMG had been given a target ahead of what turned out to be its final year in F1 to win one of the first four grands prix.

What exactly the consequences of failing to do so never appear to have been communicated from Japan to Germany, but it is almost certain that the decision not to continue was made long before the news became official in November 2009. It was probably no coincidence that those four races fell before the announcement of the company’s annual financial figures in May, when it posted its first annual loss since 1950.

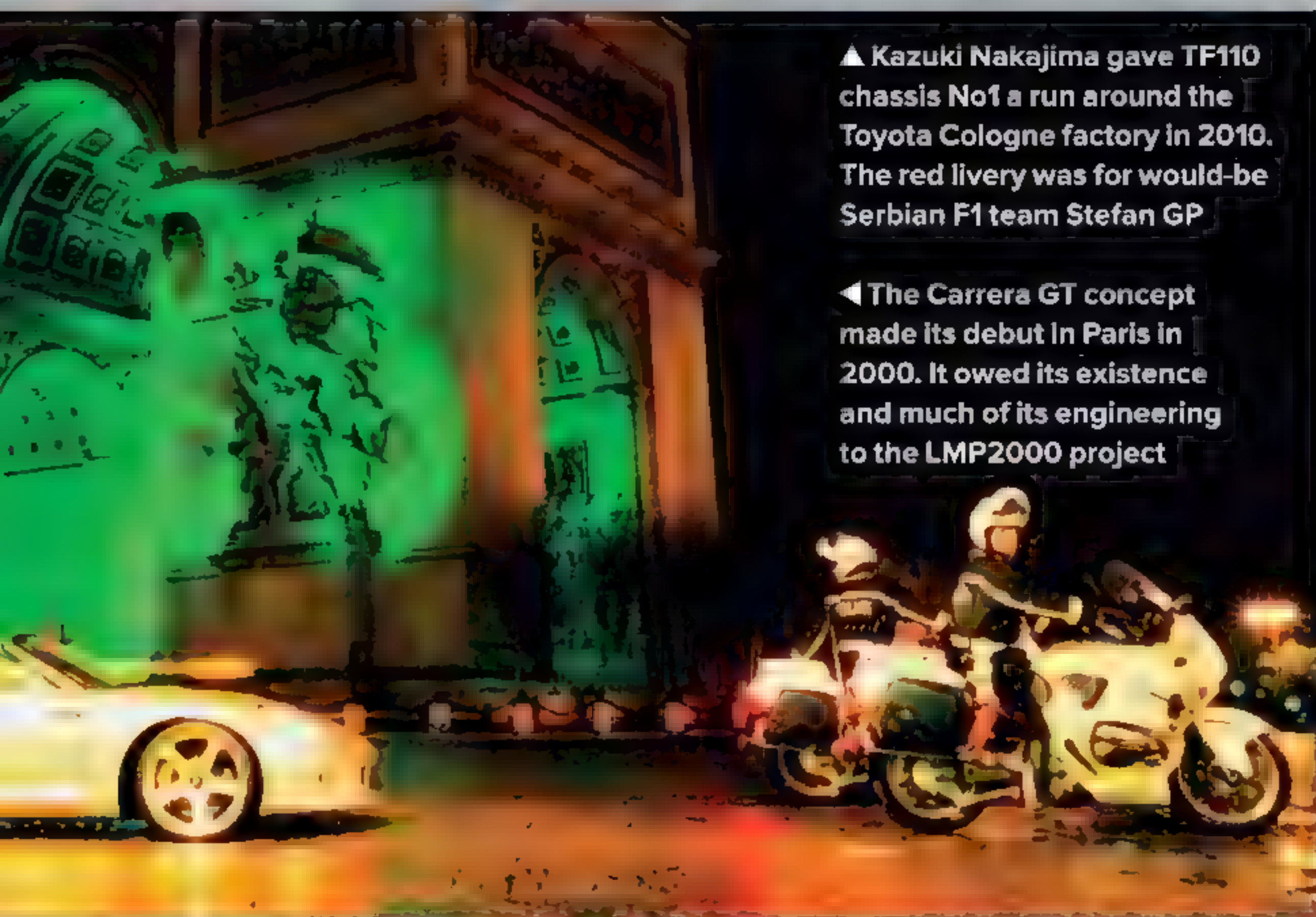
Toyota doesn’t like talking about its Formula 1 adventure these days. But Pascal Vasselon, who headed up the design team on the TF110 and is now technical director of TGRE, did recently let slip that he is convinced the TF110 would have continued the manufacturer’s upward trajectory of the 2008 and ’09 seasons.

“In terms of aero figures, the car was exceptionally good,” he says. “Some of our guys went to other teams, including Ferrari



“The company line was that the Cayenne was the end for the LMP2000”





▲ Kazuki Nakajima gave TF110 chassis No1 a run around the Toyota Cologne factory in 2010. The red livery was for would-be Serbian F1 team Stefan GP

◀ The Carrera GT concept made its debut in Paris in 2000. It owed its existence and much of its engineering to the LMP2000 project



When Audi Sport announced its intention to depart the World Endurance Championship in late 2016, plans were already advanced for the following year's R8 e-tron LMP1. A large model, above, had been built

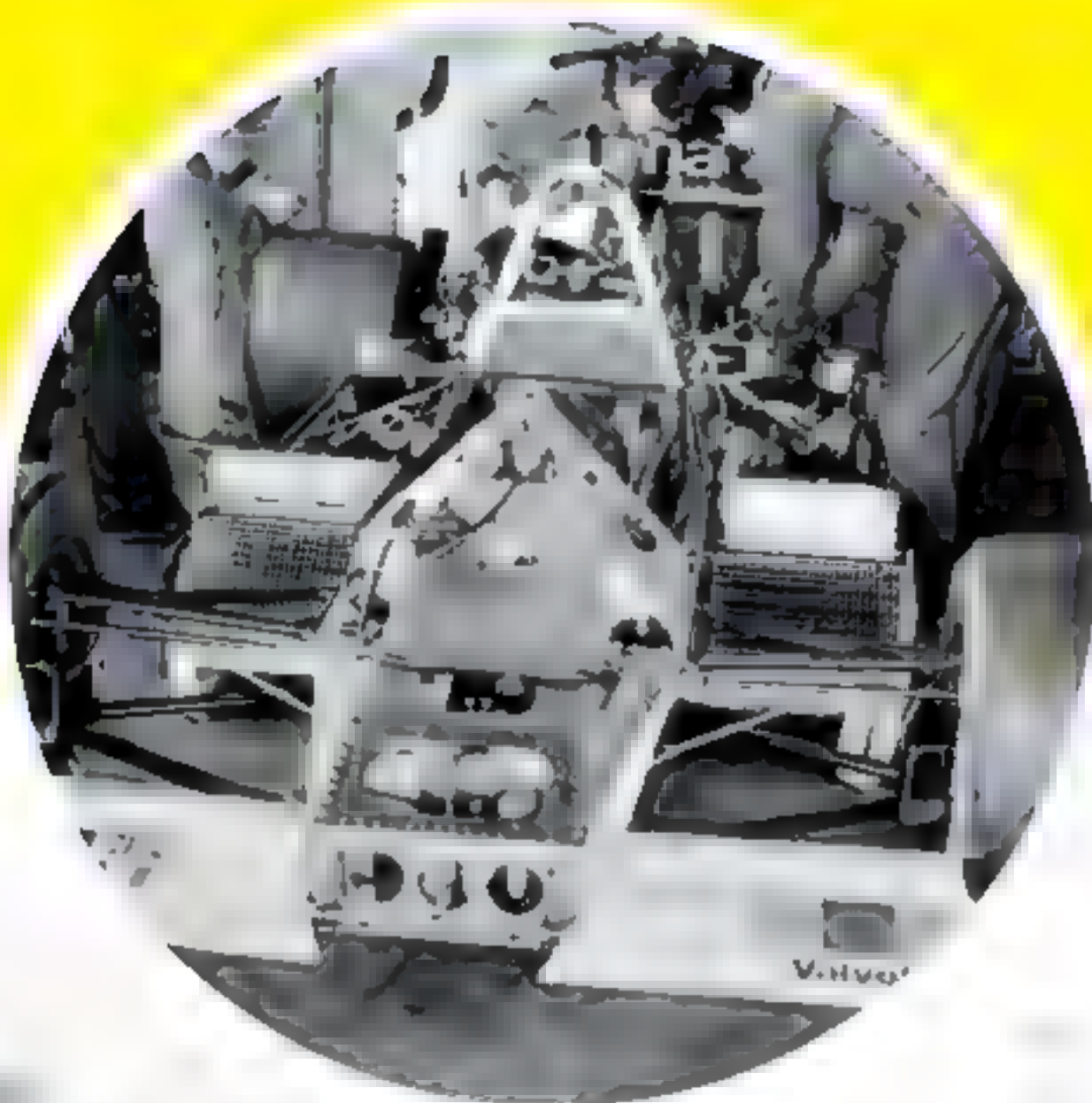
and McLaren, and they saw how impressive the figures were."

The TF110 did run, of sorts. Toyota agreed to a request from a Japanese publication to photograph the thing in action. Long-time Toyota contractee Kazuki Nakajima was entrusted with the controls for a quick spin around the TMG car park. He then handed the car over to TMG president John Howett, who promptly pranged it into the back of the wind tunnel!

Not every still-born racing car makes it onto its wheels. The majority of the components for Audi's 2017 R18 e-tron quattro LMP1 prototype were complete and ready to bolt together when the news came through that it was quitting top-flight sports car racing in October 2016. The shutters had come down on the World Endurance Championship programme in the wake of the Dieselsgate scandal and the car was never completed.

No official photographs were ever released, but camera-phone snaps of a large-scale model of the car on display at Audi's farewell party that December leaked out. It certainly looked the part, and there's no doubt in the minds of many involved in the programme that it was going to be a winner.

Audi had gone a long way to proving the potential of the 2016-spec R18 turbodiesel out of which the unraced machine was developed, or was beginning to do so. After



Below: tests of the Brabham BT51 were carried out at Paul Ricard and Donington. A ban on ground-effect underfloors ruled the car out of the 1983 F1 season and the two prototypes were scrapped. Left: the BT51 had a small fuel tank; pitstops were part of the race strategy





◀ Derek Warwick and Yannick Dalmas gave the Peugeot 905 Evo 2 'Supercouper' a drive in practice before the final round of the 1992 WSC at Magny Cours. And with that, its career was over

▼ Jan Monchaux, Audi Sport's head of vehicle engineering and aerodynamics from 2013-18, unveils the 2017 R18 scale model



a mixed start to the season, it dominated at the Bahrain finale after the axe had fallen on the marque's LMP1 involvement.

The technical director of the LMP1 programme at Audi Sport Jörg Zander had warned from the beginning that it would take time to turn the latest car to carry the R18 monicker into a winner. It was a complicated beast, incorporating aggressive aerodynamics and a battery energy-storage system for the first time.

"We struggled to develop the car and learn about the hybrid strategies, which wasn't helped with the reliability issues we had initially, especially with the motor generator unit," recalls Ralf Jüttner, team boss at the Joest Racing squad that helped run the cars. "The guys over at Audi Sport were convinced that for 2017 we had had a real weapon."

'Weapon' is an apt word for another avant garde sports car that did make it to the track, though fleetingly so. Peugeot had already won Le Mans in 1992 with its 905 Evo 1 Bis, a radical reworking of the original car to carry the 905 type number, and was dominating what turned out to be the final season of the old World Sportscar Championship. But it had something even more dramatic up its sleeve.

"The Brabham BT51 ran just twice before both cars were scrapped"

The Evo 2 was dubbed the 'Supercouper', the name by which the US action series *Airwolf* went in France, for its gunship looks. It was more single-seater with faired-in wheels than Group C sports car.

Yannick Dalmas, who would win the 1992 WSC title with Derek Warwick, drove the car in free practice for that year's Magny-Cours series finale. He remembers being blown away.

"It was amazing, so agile," he says. "It had more downforce than the Evo 1, was lighter and the weight distribution was better."

The Peugeot Sport team didn't race the Evo 2 at Magny-Cours – "it was so complex

that it was hard to find the correct set-up", says Dalmas – and the cancellation of the WSC meant there was no need for it in 1993. The French manufacturer only raced – and won – at Le Mans that year and the high-downforce Evo 2 wasn't designed for the flat-out blasts of the Circuit de la Sarthe. The Supercouper simply became surplus to requirements at Peugeot.

Dalmas recalls doing very little testing with the Evo 2 prior to Magny-Cours. It did run at Paul Ricard, which is where another unraced contender tested before it was consigned to the dustbin. Quite literally. The Brabham-BMW BT51, designed for the 1983 Formula 1 season, ran just twice before the cars ended up being scrapped.

Its designer, Gordon Murray, calls the car a "half-tank BT50". It was the first Brabham to race with the BMW turbo engine. The new F1 contender was designed to exploit mid-race refuelling, something that Brabham had brought back to F1 during the course of 1982. The problem was that it was also designed to a set of rules that ended up being superseded.

The BT51 was a ground-effect car, and FISA, the FIA's sporting arm at the time, decided to bring in new regulations for '83 demanding an axle-to-axle flat-bottom. ◉

THE UNPROVEN

Brabham boss Bernie Ecclestone had assured Murray that autocratic FISA boss Jean-Marie Balestre wouldn't get his way, which is why the team pushed on with its development of the BT51.

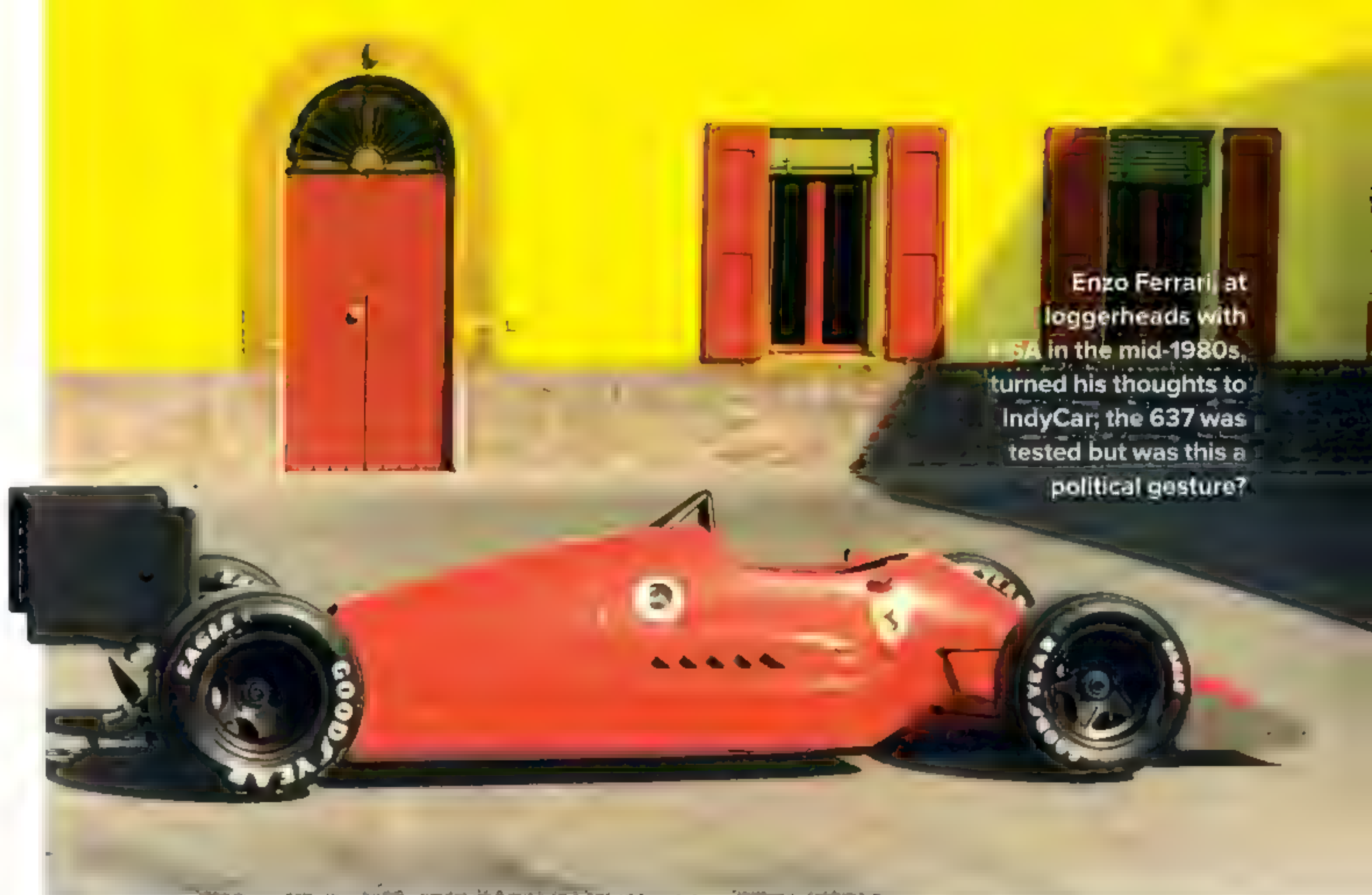
"I did the mental sums in one of those in-the-bath moments," recalls Murray. "I knew how much the weight was worth and how much putting on new tyres mid-race was worth. I calculated that we needed to stop for no more than 26 seconds. Once we'd figured out how to get the fuel in quickly and put tyres on the thing, building a car specifically to exploit refuelling was just a no-brainer."

When FISA got its way in November, the BT51 project had to be abandoned. The cars are believed to have been stripped of usable parts and sent away for destruction. Given that there is no example of the car – two are believed to have been built – in Ecclestone's privateer collection at Biggin Hill, that theory can be accepted.

Politics also did for the Gustav Brunner-designed Ferrari 637 Indycar, though they were of a different kind. Whether this car was devised as a lobbying tool at a time when the Italian team was fighting against proposed rule changes in F1 or was scuppered by internal wranglings went to the grave with Enzo Ferrari in 1988.

Steve Horne, who was team manager of the Truesports squad that was going to run the car in the North American CART series, believes the design and build of 637 was much more than sabre-rattling.

"I had several meetings with Enzo and he was adamant that it was a big deal to him and that it was something he really



"Enzo was adamant that the Ferrari 637 was a big deal to him"

wanted to do in the twilight of his career," says Horne. "I don't buy into the idea that the Indycar was built to fire a shot across the bows of F1."

The 637 did run at Fiorano in the hands of Michele Alboreto in the autumn of 1986 before the project was shelved. Ferrari,

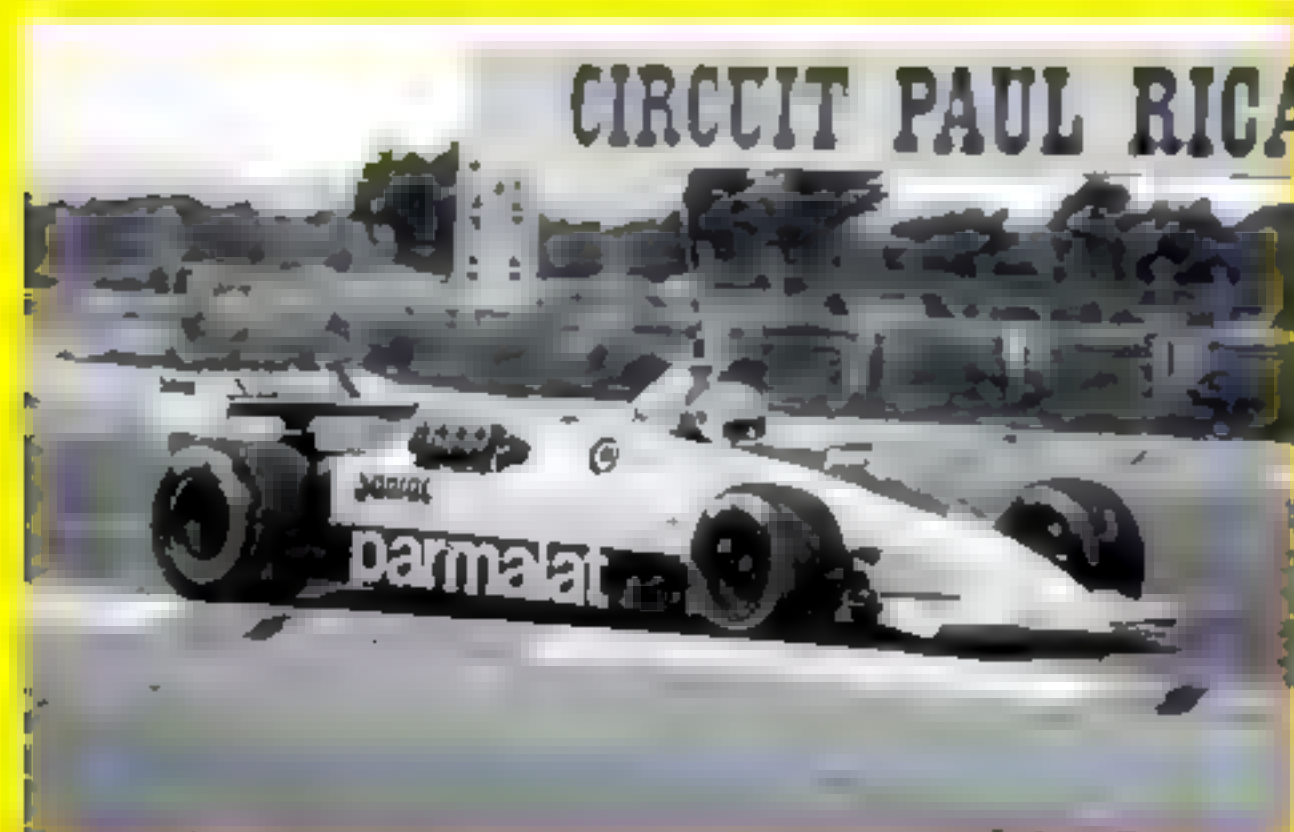
which had just hired John Barnard, would be concentrating on F1.

There is also a conspiracy theory that big-company politics did for the LMP2000. The Cayenne shared its platform with Volkswagen's Touareg, which Porsche was going to build for the VW Group. The story goes that pressure was bought to bear on the king of Le Mans to turn its back on the race and leave the way clear for VW's Audi brand, which had made its Le Mans debut in 1999.

Ampferer doesn't entirely rule out such a scenario given that VW chairman Ferdinand Piëch, the grandson of company founder Ferdinand Porsche, had significant shareholdings in both companies.

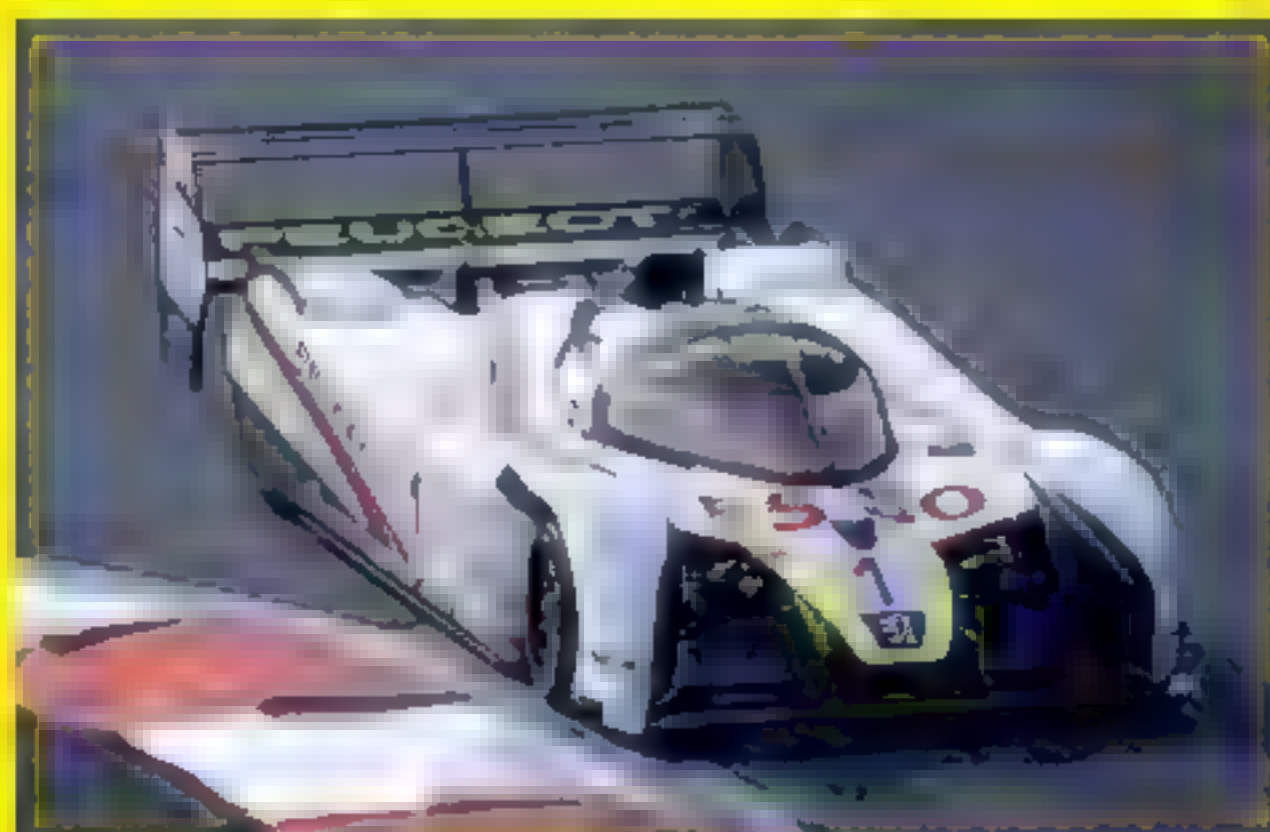
"The only thing I can say is that everything coming out of the board to me suggested there was no pressure," he says. "That isn't to say that there wasn't pressure from Piëch and his family. That is something I do not know." ●

How far could these cars have gone?



1983 BRABHAM-BMW BT51

Designer Gordon Murray has no doubts about the potential. He reckons a car that fully exploited the benefits of refuelling "would have walked the championship".



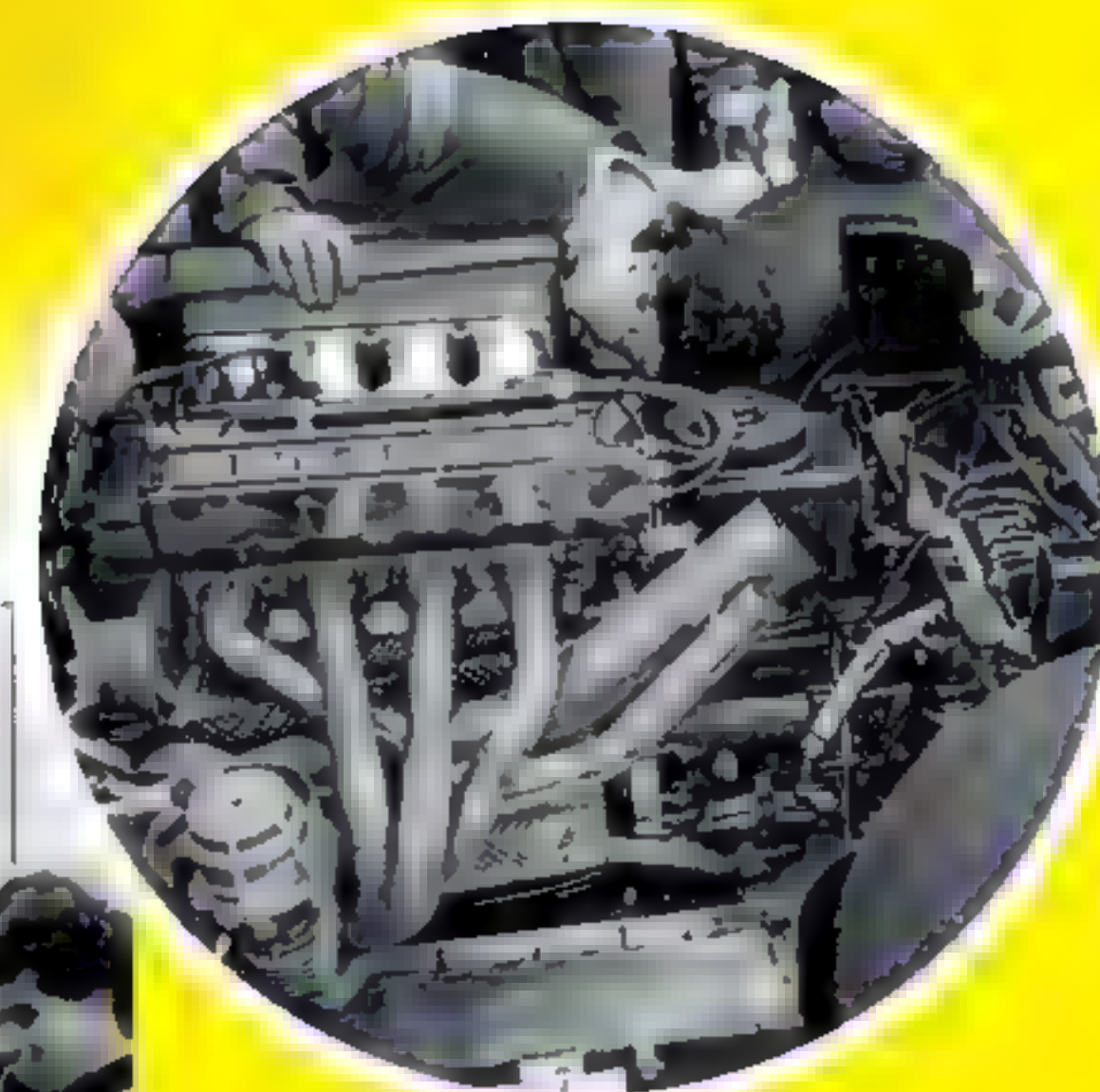
1992 PEUGEOT 905 EVO 2

Yannick Dalmas believed that the car was "a massive step forward". Any rivals turning up, had the WSC continued, would have had to build something special to beat it.



2010 TOYOTA TF110

The aero numbers for the TF110 were "very, very good" according to Toyota's then head of design Pascal Vasselon, so the question has to be whether its V8 was up to the job.



▲ BMW's F1 turbo was developed around the cast-iron block of the M10 four-cylinder that dated back to the 1960s

◀ Nelson Piquet, *centre right*, tested the ground-effect Brabham BT51 at Paul Ricard in October 1982. Despite the setback to the BT51 project, the Brazilian went on to win the 1983 F1 world title in Gordon Murray's dart-shaped BT52

▼ A narrow in-line four allowed Murray to exploit ground effects tunnels – before they were banned. The BMW engine sat upright in the BT51 for aerodynamic reasons; in the BT52 it was canted over to lower the centre of gravity



The people involved in the projects pass their verdict on motor racing's ditched designs



2017 AUDI R18 E-TRON QUATTRO

Domination at Bahrain in 2016 hinted at a glorious future for Audi. "We were confident based on the knowledge we'd gained in 2016," says Joest's Ralf Jüttner



1987 FERRARI 637

The car only tested at Fiorano, but Truesports' Steve Horne says that wind-tunnel numbers were good. He's convinced that "it would have been fast out of the box".




2000 PORSCHE LMP2000

Designer Norbert Singer reckons Porsche would have prevailed over Audi in 2000: "They were still on a learning curve; theoretically we had the better car."

The
ones
that
got
away:

8

great
lost
rally
cars



It isn't just track cars that can end up on the cutting-room floor. These rally radicals from the likes of Audi, Peugeot and even Proton might have taken the world by storm, but as **Anthony Peacock** reveals, they were destined for lesser things

Part house wreck, part Porsche 911, this thing terrorized Audi's abandoned Group B effort wasn't perfect, but it boasted up to 500bhp



Volkswagen Polo WRC (2017)

The real shame about a class of unrallied cars is that they could have become world-beaters. In the case of the 2017 Volkswagen Polo WRC, there's no doubt about it.

The last Polo was built to the exciting new 2017 WRC regulations, when the cars sprouted bigger wings, brasher attitude and a lot more power. Volkswagen had been the dominant team (with Sébastien Ogier) since 2013, winning 43 of the 53 rallies it entered. Which made it all the more shocking when the company suddenly canned its WRC programme in November 2016 following the infamous emissions scandal. By that point the new Polo WRC was only a couple of months away from its competition debut in Monte-Carlo, so virtually complete.

Marcus Grönholm was one of many drivers to test it subsequently and described it as the best rally car he had ever driven. Enough said.



Lancia Delta ECV

Believe it or not, there was actually something even faster and crazier than Group B that was originally planned to replace rallying's most outlandish era. And that was Group S, which was intended to come in for the 1988 season – to respect a five-year period of rule stability that was promised with Group B. But of course Group S never came to fruition thanks to a series of fatal accidents in Group B, which convinced the sport's rule-makers that a more powerful successor to those regulations might not be a terribly good idea.

Nonetheless, many manufacturers already had their cars prepared: first and foremost Lancia with the Delta ECV, which stood for Experimental Composite Vehicle. It was 20% lighter than the S4 it replaced and was the first rally car to use computer-aided design. Power came from a revolutionary 'Triflux' twin-turbo engine, which was nonetheless incredibly hard to drive, with very little torque at low revs followed by a wall of power as those turbos kicked in. The ECV (and subsequent ECV2: an evolved version) never competed but it remains a monument to what might have been.



Dominant in rallying for four years, Volkswagen's success would have surely continued with the beefier 2017 Polo. The car, wearing a Red Bull zebra camouflage, was tested by Marcus Grönholm





Audi Quattro 'RS002'

This was another Group S special and what it lacked by way of looks it made up for in sheer effectiveness. It resembled an aerodynamic house brick that had mated with a Porsche 911, but that unprepossessing exterior hid around 1000bhp, according to some people.

The 'RS002' – although it was never officially named – was a top-secret project. Rumour had it that not even Audi's top bosses were aware of it, and testing was moved to an obscure corner of Czechoslovakia to avoid spies, both from within the company and outside it. Audi's rally engineers such as Roland Gumpert knew that the days of the front-engined Quattro were numbered, faced with the mid-engined rally specials that were in vogue as the 1980s progressed. Audi's top management, however, wanted to stick with a concept based on the road cars for marketing purposes. So you can imagine their fury when they found out what was being secretly worked on.

The suits instantly ordered all the prototypes to be crushed – but there was thankfully just one survivor, which now lives in Audi's museum. ◀



"What if?" – that's the question you have to ask about the top-secret Group S mid-engined Quattro

Proton Putra WRC

Proton has competed with great success in Group N (effectively as a rebadged Mitsubishi) and to some extent in Super 1600, with the diminutive Satria – which was even driven by the great Gilles Panizzi on the 2010 Sanremo Rally. But although the partially state-owned company from Malaysia never competed at the very top of the sport, it came incredibly close in 1998 thanks to this remarkable Impreza WRC lookalike.

The family resemblance is no coincidence, as the Putra WRC was also built by Prodrive. It never rallied, but with so much Impreza DNA having gone into it, it could eventually have been incredibly successful. It might even have entirely transformed the image of the brand, just as rallying did with Subaru. But that's all ancient history now – although it was only recently that Proton claimed paternity of the Putra WRC project at all, having previously denied its existence. The two prototypes now reside in Proton's motor sport department. ▶



THE GREAT UNRALLIED

Only two Toyota 222D development prototypes exist today; this one is at Toyota Motorsport in Cologne



Toyota MR2 222D

Toyota has been one of the most prolific manufacturers in rallying throughout the Group A and now WRC era, not to mention Group B with the Celica Twin Cam. But the Japanese manufacturer also prepared a Group S challenger, based on the MR2.

It was a logical choice, with its standard mid-engined layout perfectly translatable into competition. The 222D project actually bore little resemblance to the standard MR2 in the end, with a much wider track and the characteristic pop-up headlamps replaced by more reliable fixed units. A variety of engines was trialled, as well as both two- and four-wheel-drive layouts. One of the test drivers was Ove Andersson who said: "You never knew what it was going to do. It could swap ends at any time and without warning."

A total of 11 prototypes were rumoured to have been built before – to Andersson's relief – the whole Group S idea was canned.



Ferrari 288 GTO

A Ferrari road car designed to compete in the WRC, the 288 GTO was a true Group S contender. It was a mid-engined, two-seater sports car with a 2.9-litre V6 engine. The car was designed by Pininfarina and was built in limited numbers. It was a true Group S contender, but it was never entered in the WRC. The car was a true Group S contender, but it was never entered in the WRC. The car was a true Group S contender, but it was never entered in the WRC.

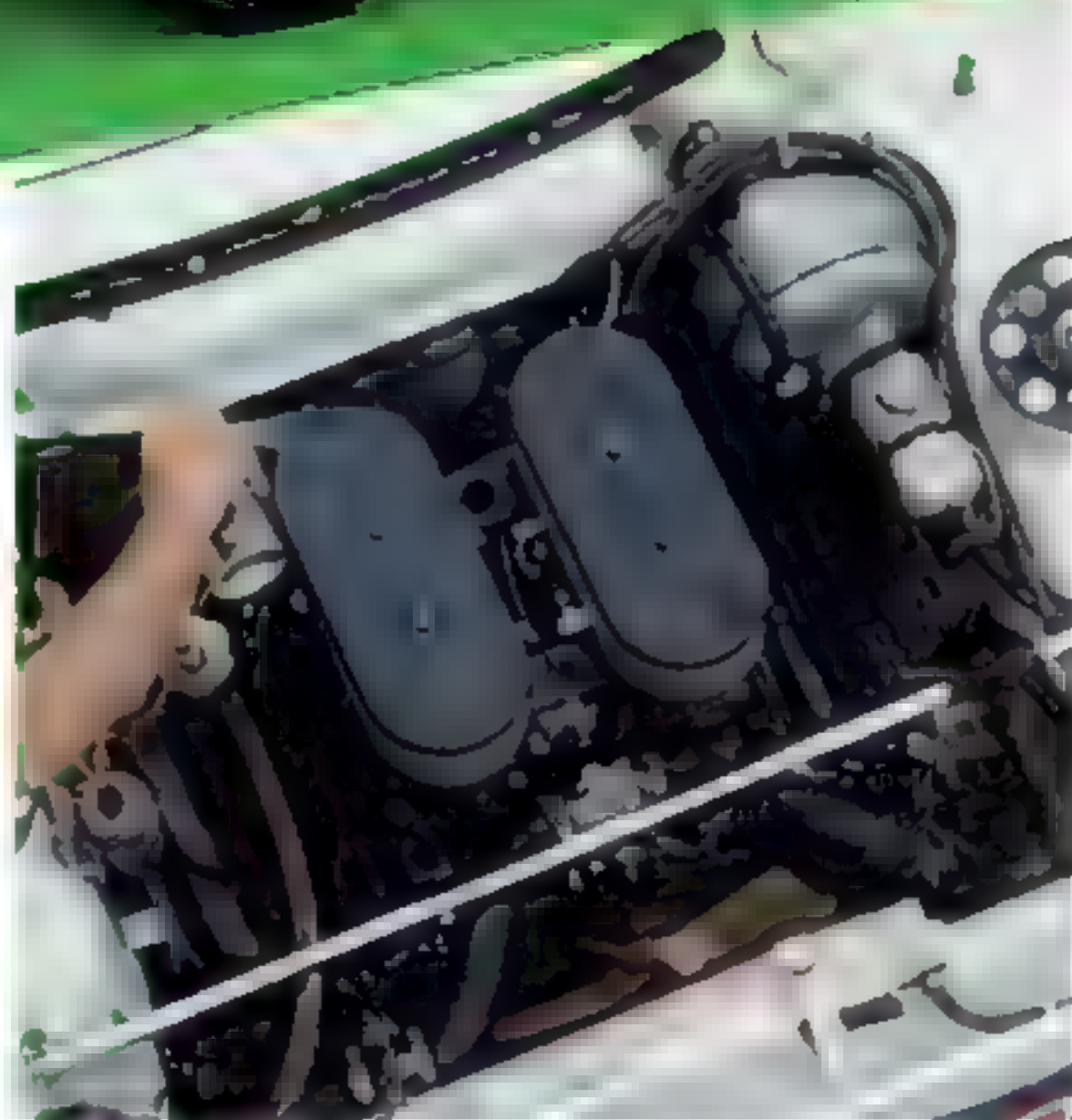


Peugeot 305 V6 Rally

A few years before the introduction of the fêted 205 T16, Peugeot made something of a false start by deciding that its designated Group B car was in fact going to be the 305, a model that had been in production since 1977. But the heart of it was somewhat older: the V6 engine and running gear from the 504 Coupé rally car, a rugged warhorse that had proved to be an effective weapon on African endurance rallies.

The end result was an odd-looking machine that didn't resemble the staid 305 at all, but a change in management put the brakes on the project. This was far from bad news, as the season for which the 305 V6 Rally was meant to be introduced – 1983 – was also the debut year for the 205 road car. In the latest management reshuffle, a certain Jean Todt was put in charge of Peugeot's competitions department, and he had an idea...

Once highly regarded by French taxi drivers, it seems unthinkable that the dreary 305 could have won the hearts of rally fans quite like the 205



Ford Escort 1700T

Perhaps the most famous of the unrallied cars was the Ford Escort 1700T, the car that had the unenviable task of taking over the mantle from the Mark I and Mark II Escorts. The road car that replaced them was front-wheel drive, but for the mooted rally version, only rear-wheel drive would do.

It was designed as a Group B challenger, but unlike many of its four-wheel-drive or composite rivals, the new Escort was much more straightforward: it used a modified steel body from the XR3 road car, and a 1700cc turbocharged engine that had its roots in the BDA unit used so successfully by its forebears.

Malcolm Wilson, who now heads up M-Sport, did much of the testing and the early form looked promising. But production of the 200 road cars required for homologation was hit by delays. And those delays proved crucial, as by March 1983 Ford's bosses realised that their new rally car was ultimately unlikely to be competitive against bespoke Group B machinery such as the Peugeot 205 T16. Something more specialised was required, and that was how the four-wheel-drive RS200 was born – once the plug had been pulled on the unfortunate Escort.

With the prospect of having an uncompetitive car, Ford pulled the plug on its rear-wheel-drive 1700T, and so began the RS200 venture

60TH ANNIVERSARY





THE GRACE

Exactly 60 years ago,
a nice-guy Californian
became the first
American F1 champion.
It was a win ultimately
tinged with sadness

OF PHIL HILL

By **Pete Lyons**

PHIL HILL,

who in September 1961 became America's first Formula 1 world drivers' champion, began his climb to the top 11 years earlier with his maiden significant victory. That happened at Pebble Beach near Monterey, California, when he forced his own Jaguar XK120 from the back to the front with a drive that commanded national attention. In his first actual road race meeting.

Fifty-eight years later his life drew to a close at the same seaside locale.

During his professional career Hill won the Le Mans 24 Hours three times, the Sebring 12 Hours three times, the Nürburgring 1000Kms and Brands Hatch 6 Hours endurance races, plus one victory in Can-Am racing (also at Monterey). He also set a Land Speed Record at Bonneville in 1959.

Yet for all his accomplishments with racing machines, it seems that most people's memories of Philip Toll Hill III are of the man himself.

Richard Cramer met him over barbells. It was 1957, and the 21-year-old college athlete worked out regularly in a gym near his home in Santa Monica, California. So did a trim, compact fellow of 30, a quietly intense man with quick eyes – who turned out to have been in the same school fraternity. The frat brothers began 'spotting' each other on the weights, guarding against injuries, and Cramer noticed his new friend concentrating on the arms and wrists.

"He wasn't a body-builder, bulking-up," remarked Cramer. "He was doing tons of reps, going for endurance. So was I, but with him it was all upper-body. He said it was for stamina at the wheel of a race car. At that time I had no interest in auto racing, but we'd spend an hour with each other three times a week, talking about it, and he was fascinating."

The next summer, 1958, the older man came back from a trip to France and mentioned that he'd just driven a car called a Ferrari to victory at a place named Le Mans. Only the second American to win that most important of the world's sports car races.

Cramer was hooked. Hill may not have realised it, but he had brought one more unbeliever into the fold.

In his new life as a red-hot racing fan, 'Dick' was always keen to go and watch his barbell buddy wrestling the unruly beasts of the day. He first went to Le Mans in 1960, and was there again in '61, when Hill and Olivier Gendebien took their second triumph. Richard was watching for the entire 24 hours. Mostly from inside ◉





Phil Hill's Monaco Grand Prix debut came in the first F1 race of 1959. He finished fourth for Ferrari, with team-mate Tony Brooks in second



"There were smiles on Hill's face,
but there was no joy behind them"

GETTY IMAGES

the Ferrari pit. “I was too excited to sleep! I didn’t want to miss anything.”

How did he score a pit pass? “I had asked Phil if he could get me in. He said I’d have to find him there. Among 300,000 people! But that was no problem, because in those days all the Americans tended to stay together in a house about two blocks’ walk from the track. I recognised guys like Gregory, Ginther... I rang the bell, and Phil’s an honest guy. He opened his wallet and pulled out a little yellow card with a string on it. He said, ‘You don’t realise what I’m giving you.’ It was a Service pass, all access. I could go anywhere. Phil wouldn’t need it, nobody was going to stop ‘Feel Heel’.”

Taking his camera out around that circuit and at numerous other tracks through the next several years, Cramer could see for himself how his friend’s relentless pumping of iron in the gym paid off in the cockpit. “Some of the guys were really rough with the gear shifting, but he was so smooth it was like listening to a symphony orchestra.

“He had the right body size, he worked constantly to build up arms and wrists, and from his background

be only his third-ever go at organised racing, and just his first on a road course.

His practice times were good, and he was placed second in a preliminary race – despite the clutch breaking, so it refused to disengage. This made the twin-cam six difficult to start for the main event of the day, so Hill got away late.

Possibly that’s why he arrived at the first turn too fast, and had to veer off into an escape lane.

Then the drum brakes faded to nothing.

Already changing gear without using the clutch, Phil was reduced to scrubbing off speed by abusing his tyres. It was not a tidy performance, but at the end of the 25 laps, about 45 miles, he had passed every other competitor and finished in first place.

As described in a retrospective 1975 article by Pat Jordan in *Sports Illustrated* magazine, “by the time Hill finished punishing it at Pebble Beach it was merely another muddy, dented, brakeless and clutchless racing hulk. Hill’s driving technique at the time consisted of ploughing his car into each turn too fast, bracing himself as the car bounced off the track’s protective bales of hay and then jerking the steering wheel until the car straightened out and proceeded to the next turn – with his foot nailed to the gas pedal. It was a technique that showed neither style nor fear, and one that would change.”

The change was the driver’s own doing, as he told the *SI* writer. “As a young racer I was a nutcase. My own worst enemy. I drove on instinct, not intellect. I would go out and go too fast and scramble around making sure to react to danger rather than doing a heady job.”

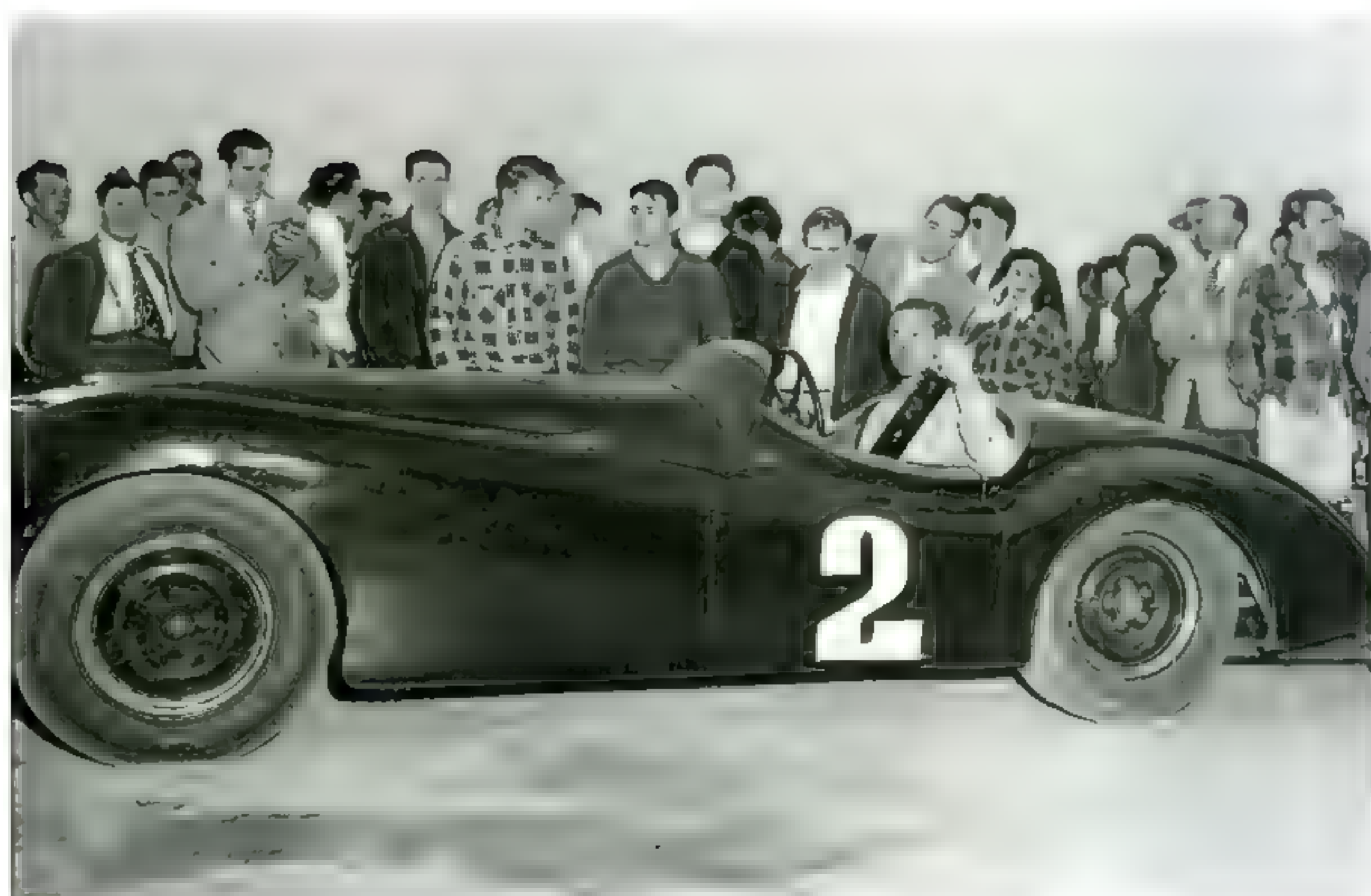
Who was the sage who said, “You can slow down a fast driver, but you can never make a slow one faster”?

The notoriety of the Pebble Beach event itself, together with his manner of winning it, called this young Californian’s talent to the attention of the racing world. Soon he was driving other people’s cars along with his own new C-type Jaguar, refining his style every time out. Winning major club races again and again across the US bolstered his reputation until, in 1958, he was called to the Scuderia Ferrari. That first year he co-drove a 250 TR sports racer to victories at Buenos Aires, Sebring and Le Mans. By the end of the year he was a Ferrari F1 driver.

Not under happy circumstances, though. As was all too common in those days, the position opened when fellow team member Peter Collins was killed at the Nürburgring. Intently introspective, keenly cerebral, tautly strung, Hill struggled to shrug off the dangers in what he was doing.

“Within a 15-month period,” noted Phil’s close friend John Lamm in an interview for *Road & Track* magazine, “Phil’s Ferrari team-mates Luigi Musso, ‘Fon’ de Portago, Peter Collins, Mike Hawthorn and Jean Behra were gone.

“‘It sounds cold, thinking about it now,’ Phil explained. “They were all good friends, and I was living on Peter Collins’ yacht in Monte Carlo at the time of his death. But we were right in the middle of a very dangerous period in automobile racing, when people were buying it left and right and had been for quite ◉



Above: where it all began... Hill in his Jaguar XK120, which he drove to victory in the Pebble Beach Cup race in November 1950

Left: the new F1 world champion keeping up appearances at Monza on September 10 1961, knowing that his team-mate had died

as a mechanic he understood the car; he had a magical ability to feel it. Phil and the car were one.”

And indeed, Hill regularly demonstrated that knack throughout his career – although not until after he ironed out some rookie wrinkles in the fabric of his technique.

His mount for that seminal 1950 Pebble Beach race was his own Jaguar XK120 alloy-bodied roadster, which he had purchased while working at the factory in Coventry. His employer, a Los Angeles import car dealer, had sent the 23-year-old mechanic to the UK for training at various carmakers, so he could properly service the boatloads of British sports cars that were being snapped up by novelty-seeking Americans.

After personally preparing his sleek black Jag, Phil drove it over 300 miles north to the Monterey Peninsula, where a new car race would be held on narrow, tree-fenced roads meandering through the coniferous Del Monte Forest. For Hill himself it would



Above: happier times in 1952 at the wheel of a Ferrari 212 Export. He gained a reputation as the man to beat on America's West Coast. Opposite page, clockwise from top left: driving a 'Sharknose' at Zandvoort in his title-winning season; arriving at Spa in 1961 in his Peugeot 404; the last of Hill's 14 Le Mans 24 Hours appearances was 1967 in a Chaparral 2F

a while. We were very defensive about anybody trying to get into the life or death aspects of racing. We tried to avoid it and not talk about it.

"In retrospect, I'm pretty certain we knew it was a losing discussion at the time. We would have had a tough time rationalising why it was OK to continue. In that atmosphere, a lot of things that don't make sense now were logical then."

The mental turmoil gave him a nervous, apprehensive edge. At one point he suffered an ulcer. Writer Gerald Donaldson, quoted him as saying, "Racing brings out the worst in me... makes me selfish, irritable, defensive. If I could get out of this sport with any ego left I would."

Yet he did not get out, not then. Danger be damned, he was resolved to prove himself. As the US journalist David Malsher-Lopez put it last year, "Not a man of bullish self-confidence, then, but steely determination."

Add to that an iron-clad capacity to focus on the job. Stepping into a racing car seemed to flip a switch. If Hill had been at his 'worst' before the race, once it began his best came out. He handled the machine with sensitivity and grace, running fast without whipping his mount, thinking strategically, keeping his mind on the finish line and reaching it often in an era when many didn't.

It is a tragic fact that Hill's day of triumph is shrouded in horror. No one can forget that his Ferrari team-mate, Wolfgang von Trips, died in a savage accident that also took the lives of many spectators. Until that instant at Monza the German driver had the better chance of taking the title. Post-race photographs show smiles on winner Hill's face, but the man himself said there was no joy behind them.

By haunting coincidence Mario Andretti, the second American driver to become champion, did so at the same cost, when his Lotus partner Ronnie Peterson perished. At the same circuit.

Thus both Hill and Andretti had to fight the same internal war of opposing feelings.

Phil Hill was a Ferrari works F1 driver from the last part of 1958 through to 1962. During the three full seasons he rode the Prancing Horse, '59 to '61, he won a total of three grands prix. Not a sensational percentage, but one worthy of respect.

Especially so for someone whose youth was not bathed in the culture and mystique of European F1. Hill himself assimilated before many of his compatriots, but to most Americans of his era Formula 1 was a 'foreign' form of the sport and they had to be sold on it. Having one of their own become world champion was a powerful selling point – not least for his Italian



“He is perhaps the most under-appreciated world champion in F1 history”

employer, for whom America was becoming his marque's most important market.

Yet the one time Hill's home crowd saw their man drive an F1 Ferrari was at a sparsely attended Sebring in 1959, when his car failed after a handful of laps. Whether that poor first impression could have been redressed in the following two US GPs cannot be known, because the *Commendatore* refused to participate.

Thus at Watkins Glen in 1961, the wrap-up GP of the season, America's freshly minted first-ever world champion was reduced to saluting his fans from a parade car. A Ford.

Such cold disrespect by his transatlantic boss did nothing to diminish Hill's standing on the western side of the water. To the world at large it may be true that he was, as Malsher-Lopez remarks, “perhaps the most under-appreciated world champion in Formula 1 history”, but his fellow Yanks revered him. His

accomplishments with sports racing cars, domestically as well as internationally, were more than adequate to make Phil Hill one of our most distinguished drivers. His character as a person made him one of our favourites.

Everyone who remembers Phil Hill mentions what a gentleman he was. I saw that side of him after I'd asked his help with a book on Chaparrals (for whom he scored three significant victories), and I had thanked him in the foreword. Fully a year after publication I was in Monaco for the Grand Prix, and came across Phil also watching the action. Over the screams of engines he made a particular point of expressing his appreciation for mentioning him.

I thought, it isn't often in this business that you get sincere thanks from a racing driver. Mostly, their self-absorbed minds just don't work that way. Not an ‘ordinary’ guy in the conventional sense, obviously, but one without the airs one might expect of

‘a champion’. There was no pretence. No nonsense. A straightforward man who raced because he was a racer, just that, and thereby kept the whole thing straight in my mind.

Straightforward, but not simple. Others knew him better than I and can recite many examples of his complexity. While Phil was still alive, the weightlifter whom he turned into a race fan, Richard, remarked that his friend was once offered a car dealership, but turned it down. “He didn’t want to be bothered. It would have made him rich, but he’s that way. Phil lives in his own world.

“He’s a quirky guy. Phil only wore chemise Lacoste shirts and khaki pants, a whole lot of ‘em. In Europe he drove a Peugeot 404; I think they loaned it to him, and its door panels were stuffed with his winnings in cash, \$25,000 or \$35,000 worth.

“When he gets mad he gets withdrawn. Nobody can sulk like him. He spends as much time in Santa Monica as he can; he loves the house his aunt gave him. He had *beaucoup* girlfriends, one after another, but wouldn’t marry while he was racing because of the threat of being killed.”

When Phil finally united with his soulmate Alma in 1971, it was a solid commitment. When he died in 2008, due to complications of Parkinson’s disease, they had been married for 37 years.

No one can know a man better than his wife, and we are indebted to Alma Hill for sitting with *Road & Track*’s John Lamm to talk of her late husband with enthusiasm and love.

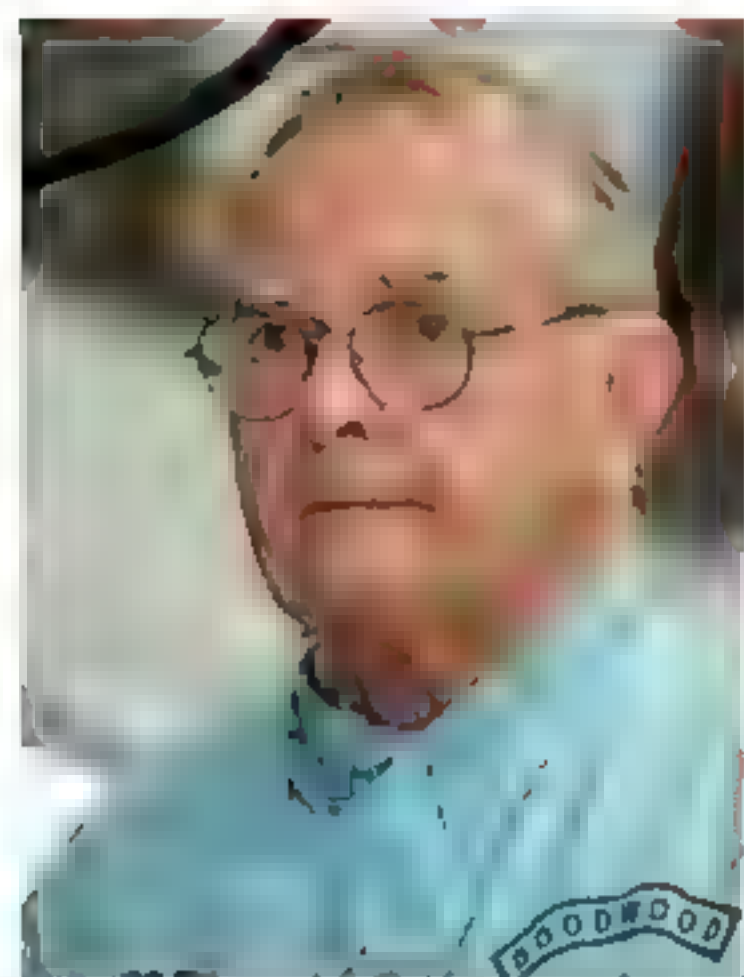
“The greatest adventure ever. Never, never a boring moment. Phil was a multifaceted, very intelligent ◀

“There was no pretence. No nonsense.
He raced because he was a racer”



The defence measure was to race with intelligence, vigilance and care"

Above: an early instance of a photobomb at Monza in 1958 with Phil Hill and Motor Sport's own Denis Jenkinson at the short-lived Race of Two Worlds. Below: Hill in his mid-seventies at Le Mans in 2003



human being so we never had a dull moment," she said for Lamm's story *Life with a Champion* in 2011.

"It wasn't always fun, fun, fun. Some of it was extremely intense and he could be an impatient man, but we had so many experiences. Sometimes when I looked at a calendar and saw what we did within a week, I didn't think some people did that much in four or five years... Activity was surrounding us all the time."

As his illness became known, I took an opportunity to ask Alma how Phil was doing. "Oh, he's slowing down a little," she told me with a fond chuckle. "He's no longer racing around the house at 200mph. Now it's only 150."

Although I arrived too late to witness Hill's strongest period on the track, I cherish the times I was able to spend with him in later years. Some of his independence of thought came out when my wife and I asked to interview him at Hill and Vaughn, the highly regarded classic car restoration business he operated near his long-time home in Santa Monica.

Leaning back from his desk in his classic old wooden swivel chair, trying to look at ease but fidgeting continually, swinging back and forth, waving his arms, talking a torrent, he told us many things, but one stands out now in my mind.

Kids today, he said with consternation, are so darn safety-minded. Why, when he invites young people for

a ride in some wonderful old car, they look around and complain there aren't any seat belts! He was genuinely puzzled. If not offended.

That seemed to contradict all that we'd heard of his notorious distress about the dangers in motor sport, but I understood perfectly. This man had been racing when racing was not about depending on technology for survival, but on yourself. To have to summon your absolute best. That, to me at any rate, is what makes it worth doing.

Yes, drivers worried about injury and death – so did we passionate onlookers – but the defence measure was to race with intelligence, vigilance and care. Which he did. Phil Hill never suffered a serious injury in a racing car. Yet he won the world championship.

"Going to races with Phil was a highlight of my life," says Richard Cramer, acknowledging that their chance friendship made a lifelong enthusiast of him. "We were Kappa Sig brothers [American college fraternity], sure, but Phil didn't have to be that kind to me.

"I agree with what I've heard people say, that Phil Hill is the finest race car driver who ever lived. Because he knew what was going on under the hood. Nowadays all these kids come out of karts and it's all mostly electronics, push a button."

"I just happened to be there at a time when we both were young." ○

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**RACED BY PHIL HILL
 AND DEREK HILL**



1965 Carroll Shelby

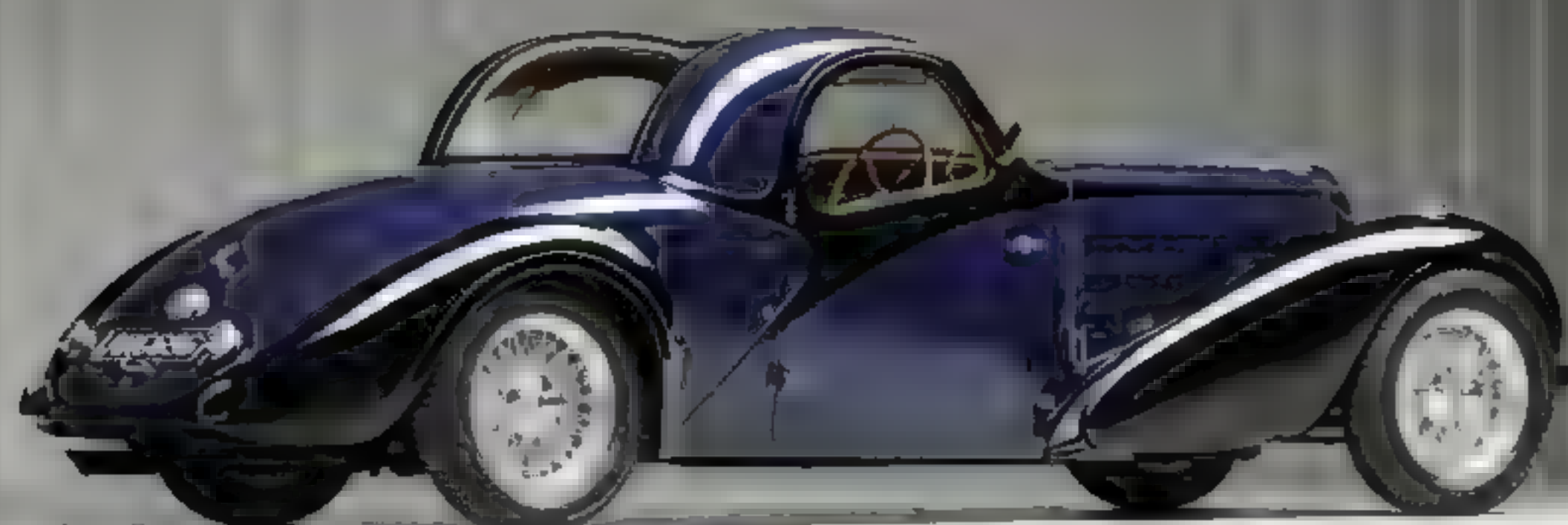
1965 Shelby Cobra Daytona Coupe

Previously owned and driven by Carroll Shelby. Current owner purchased this car directly from Carroll Shelby. Well-documented including a title in Shelby's name. Vintage race history includes wins at Laguna Seca and Goodwood. Driven by Phil Hill, Derek Hill, Derek Bell, John Morton, Danny Sullivan and Brian Redman. McCluskey Daytona Coupe body commissioned by Carroll Shelby under his ownership. An impressive piece of racing history. Listed in the Shelby Registry.



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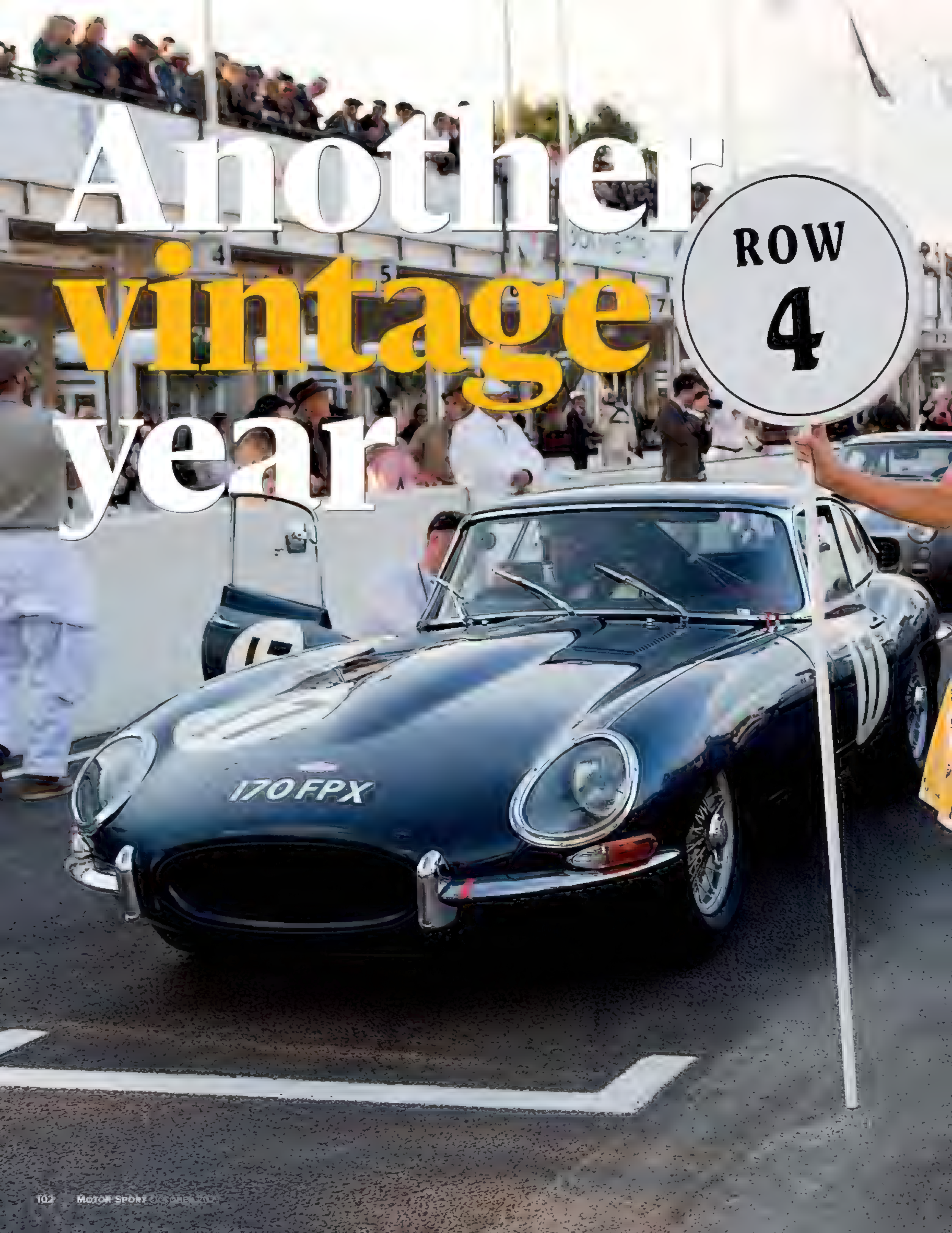
1938 Bugatti Type 57C Atalante Coupe

A rare Bugatti with early Atalante coachwork featuring a "roll-top" sliding roof. Extensively documented by renowned Bugatti historian, David Sewell. Resided in significant French collections, Henri Novo as well as Michel Seydoux, of Schlumberger fame. Recipient of a painstakingly correct, frame-up restoration. Best in Class at 2016 Pebble Beach Concours d'Elegance.



1937 Miller-Gulf Race Car

One of two Miller racing cars commissioned by Indianapolis champion, Ira Vail. Recognized as the most original survivor by Miller enthusiasts and experts. Exceptionally original example of Harry Miller's creative genius. A tour de force of Harry Miller's advanced engineering and construction. One of the last major racing-car projects completed by Harry Miller.



Another vintage year

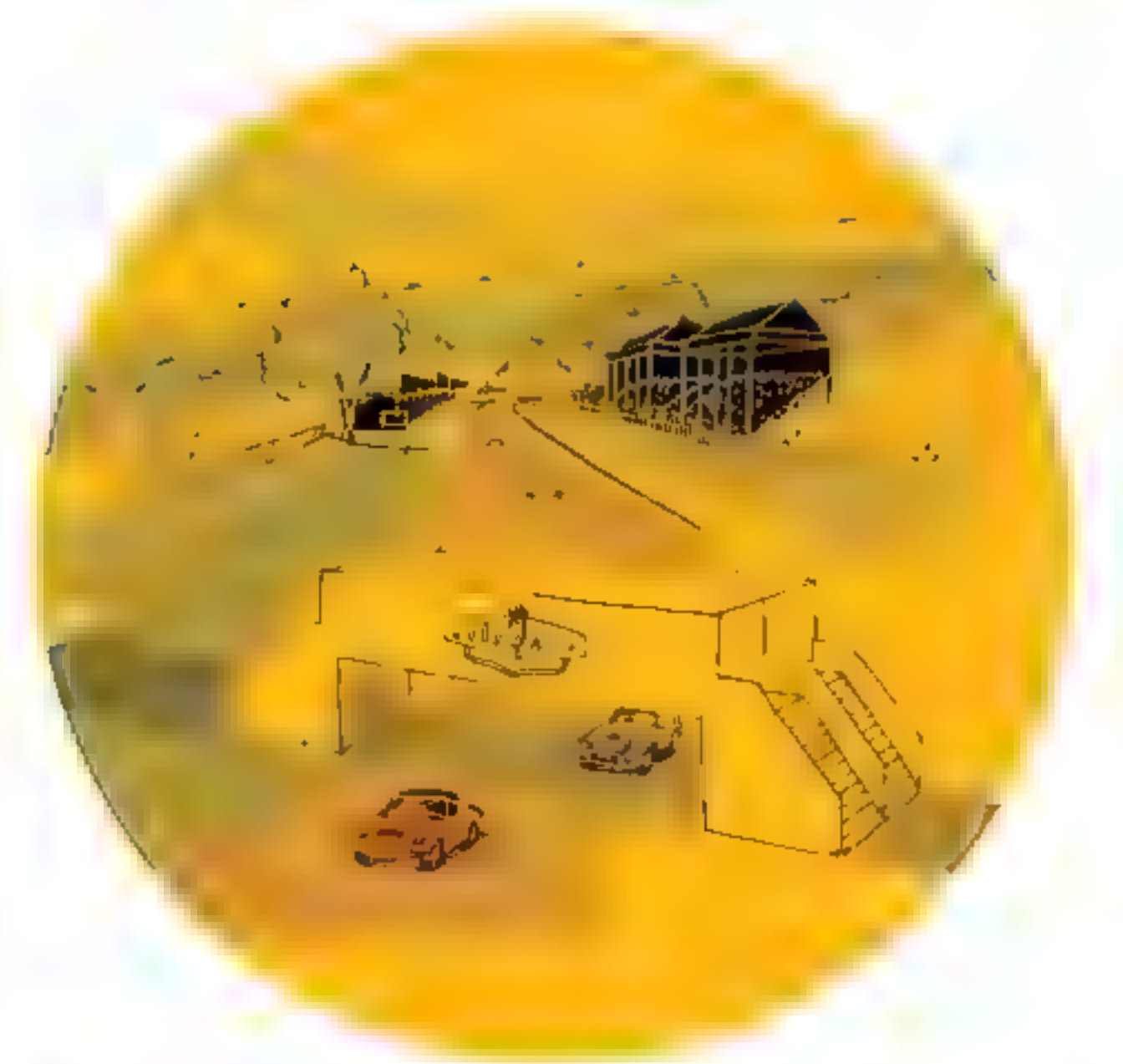
ROW
4

IS THERE A UK MOTOR SPORT HAPPENING more hotly anticipated this year than Goodwood's jewel, the Revival Meeting? The Festival of Speed was special, as will be the Members' Meeting in October. The sun-drenched British Grand Prix is one that will never be forgotten, thanks largely to the antics of Max Verstappen and Lewis Hamilton, while fans have also flocked back to Silverstone Classic, British Touring Car Championship rounds, British Superbikes and much more. But the Revival - it's the one so many of us missed more than anything during 2020. September isn't September without it.

So what should we expect from the world's favourite motor sport event and certainly the pinnacle of the historic racing season on September 17-19? The short answer is more of what we've become used to since the Duke of Richmond succeeded in bringing back racing to his grandfather's Motor Circuit in 1998.

Like all the best long-lasting success stories, Goodwood doesn't need to reinvent the formula every year because the one it has works so well. But the team at the West Sussex estate can never be accused of complacency: it always manages to pull on strands to create new pieces of magic.

This year, for the big return and the first running since 2019, will be no exception: among the familiar line-up special features and new elements have been dropped in, with an eye on keeping things fresh for the fans. The packed entry will be full of quality - naturally. But what really stands out for the comeback is the effort that has gone into opening up the Revival further to those without whom it simply can't happen, as 2020 proved: that means you.



NEW BRIDGE OVER MADGWICK

This one might make a few photographers quake, not to mention hardcore fans who love the view from Goodwood's first corner down the start/finish straight - a newly built pedestrian bridge between the end of the pitlane and Madgwick has been added for

Making a welcome return, the Goodwood Revival picks up where it left off two years ago. **Damien Smith** dons his demob suit and takes us through the programme highlights

REVIVAL PREVIEW

this year. Organisers are at pains to stress they have strived to minimise the bridge's impact on favourite vantage points, but it's hard to imagine it won't upset someone. Then again, what it will do is improve and free up access to the infield, which becomes clogged through the two tunnels at peak Revival time.

Given ongoing social distancing concerns, its addition has to be considered a good thing. The bridge will link the perimeter to a new viewing area on the inside of Madgwick next to the assembly area, which is ground-breaking for Goodwood and should prove popular.

RAF WESTHAMPNETT REVIVED

Goodwood will once again tap into its World War II heritage as it also opens up new viewing areas on the infield along the Lavant Straight. Dubbed RAF Westhampnett as the airfield was known during the war, there will be a shopping area, food stalls, more outdoor seating, a big viewing screen and a new infield grandstand. It will also be home to a display of NHRA hot

rods - a personal favourite of the Duke's - and the grid of Stirling Moss Memorial Trophy GT cars from the early 1960s, which according to Goodwood now surpasses the RAC Tourist Trophy Celebration field as the most valuable at the Revival.

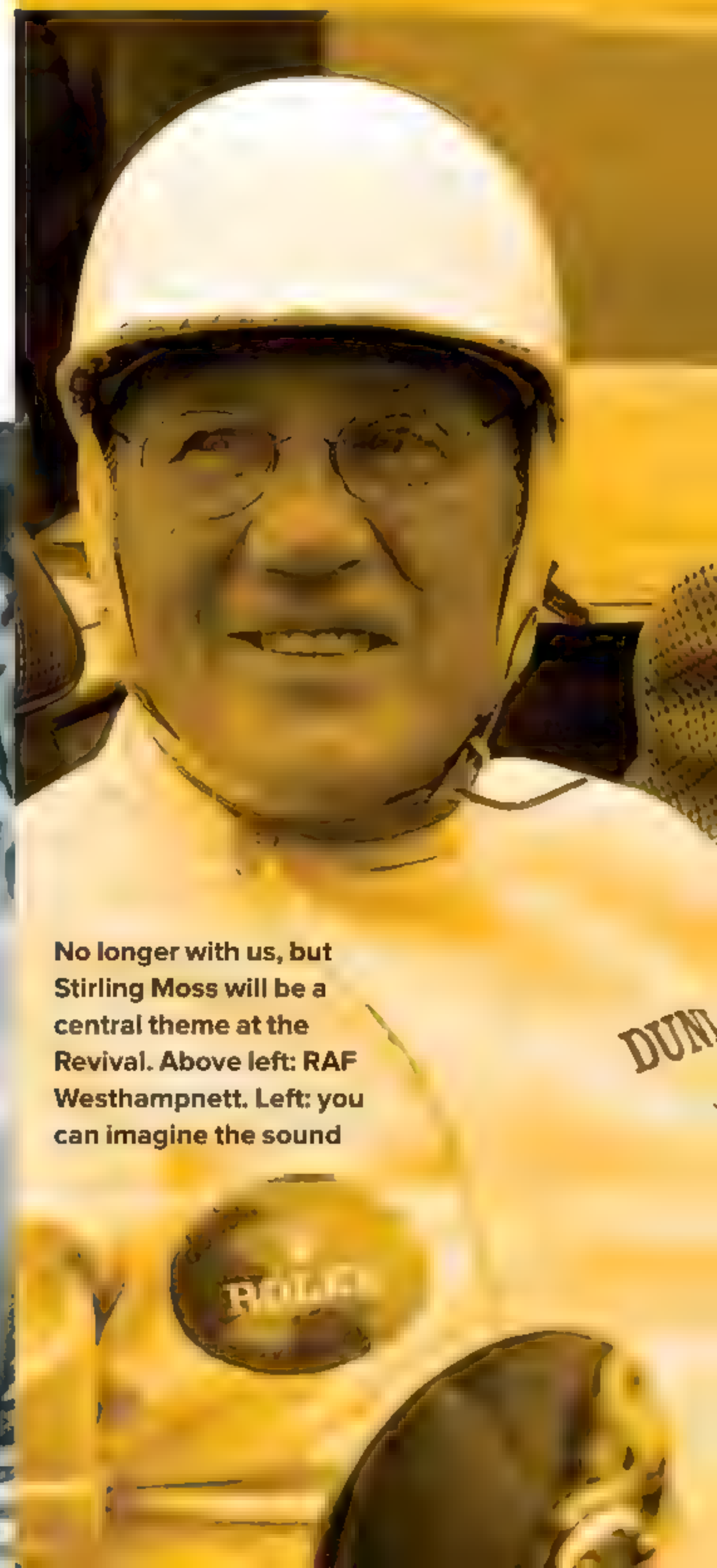
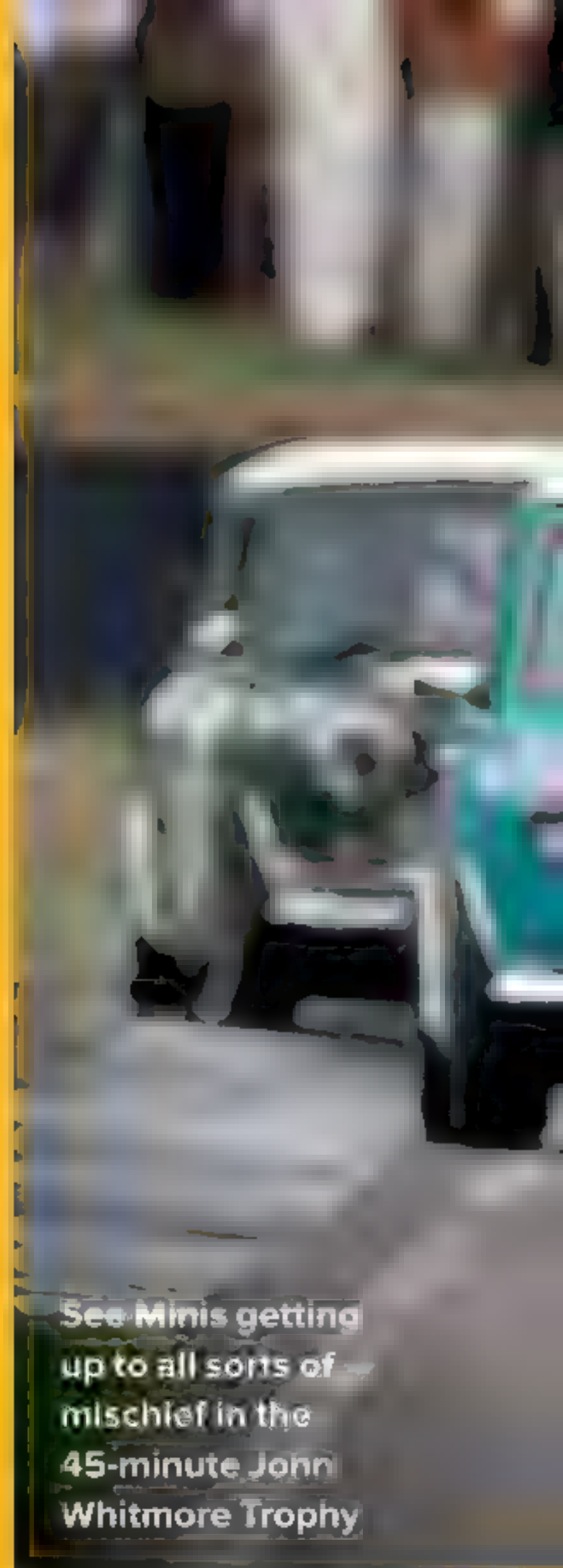
SPYING ON THE DRIVERS

Another concerted nod to improved public access is an intriguing new approach to the Drivers' Club - the place all competitors tend to congregate, relax and hide away when they are not racing. This year it moves from the top of the airfield to a new position close to the Earls Court Motor Show building - and for the first time will be on full display to the public.

What exactly that means is hard to say right now - Goodwood loves to pull out a surprise or two for its big weekend. But over the years it's gradually become harder to see your heroes at motor sport events, even at Goodwood. How drivers respond to losing some privacy remains to be seen - but frankly, who cares? The Revival didn't happen last year because the public couldn't come. This looks like a welcome acknowledgment of how important the crowd is to a venue that really shouldn't mimic the old elitist 'right crowd and no crowding' Brooklands schtick.

STIRLING MOSS MEMORIALS

On to the track action - and inevitably the first Revival since the death last year of Sir Stirling



No longer with us, but Stirling Moss will be a central theme at the Revival. Above left: RAF Westhampnett. Left: you can imagine the sound



"Mini races at Goodwood guarantee fun and high-jinks"

Moss means 'Mr Goodwood' will be central to so much that plays out on the Motor Circuit.

Following the memorial celebrations at the Festival of Speed, a parade of Moss-related competition cars is being gathered which could turn out to be the largest yet seen. The obvious touch points of motor sport's most celebrated racing life will all be present and correct, including Mercedes-Benz SLR '722', the 1955 Mille Miglia winner that was also rolled out at the Festival. Will it actually run within the parade? We hear that's a moot point between Goodwood and Mercedes right now - but let's hope so. '722' doesn't travel often out of Stuttgart and who knows when it will again after this appearance.

The Stirling Moss Memorial Trophy took its bow behind closed doors at the autumnal SpeedWeek last year, so its running at the Revival will be a public debut in this guise for a race previously known as the Kinrara Trophy. The two-driver, 60-minute race will run on Friday and looks sure to be an early weekend highlight.

Naturally, Moss cars that take part in the parade will also appear in many of the races, including his Rob Walker Lotus 18, the four-wheel-drive 1961 Oulton Park Gold Cup-winning Ferguson P99 and Aston Martins DBR1 and DB3S. The Revival without Stirling used to be an unspeakable prospect. With that in

mind, we all might find something in our collective eye when the parade rolls out to celebrate his life.

WHITMORE MINI RACE

The regular favourite races will be unmissable, as ever, including the RAC Tourist Trophy Celebration on Sunday and the two-part St Mary's Trophy, this time for 1950s hot rods (sorry, we mean humble saloons) on both days of the weekend.

Then on Saturday expect an added dose of tin-top tomfoolery with the John Whitmore Trophy, a two-driver, 45-minute race dedicated to the Mini Cooper S. One-make Mini races are nothing new at Goodwood, but that's because they guarantee fun and all sorts of high-jinks. You won't want to miss this year's Whitmore.

FESTIVAL OF BRITAIN RECALLED

It's 70 years since the Festival of Britain celebrated the best the country had to offer in a time of crippling austerity and hardship, and in the current circumstances perhaps a Goodwood theme has never been so apt. In that frame of mind, the Goodwood Trophy for grand prix and voiturette cars is renamed the Festival of Britain Trophy for this year

and will run on Saturday morning. Mirroring that theme will be a display based on the Battersea Pleasure Gardens from the summer of 1951 at the Gate 2 entrance, to add another extra ration of good spirit and cheer as we arrive and leave.

Scrolling back five years earlier, the Victory Parade will mark the 75th anniversary of the 1946 end of WWII celebrations in London, with military vehicles taking to the Motor Circuit on the Sunday to pay tribute to and thank local key workers and service people. That should stiffen our upper lip.

MAKE-DO AND MEND

Away from the track and perhaps inspired by popular BBC TV show *The Repair Shop*, Goodwood this year introduces a new Make-Do and Mend feature on the outside of Woodcote Corner, showcasing restoration projects and featuring specialist guests who will be speaking and taking part in Q&As over the weekend.

On a similar sustainability, self-sufficiency theme keep an eye out for the Dig for Victory allotment, a 600sq ft patch celebrating the wartime campaign for cut-off Britain to grow its own food. The knack of tapping into the national zeitgeist, through the medium of rose-tinted nostalgia, knows no bounds down in Sussex.

But as always, it's the racing action that will pull us back to the Goodwood Motor Circuit. A welcome sense of normality quickly swept across the Festival of Speed in July, followed in quick succession by the packed scenes at Silverstone. As it stands, business as usual is the order of attack for the Revival too and all being well we should barely see the join from the pre-Covid era. The SpeedWeek last year was great - but watching remotely on screens was never going to be the same, and at the circuit itself the lack of crowds inevitably left it feeling like a ghost event. This time, we'll cherish the Revival more than ever. **●**





Kaemmer's

A photographer would need special press accreditation to get this close to the action but in esports the possibilities are endless. **Preston Lerner** traces the history of the motor racing simulator and how one American's drive for near-real perfection has led to an online racing phenomenon that even attracts top drivers and teams







Top left: Dave Kaemmer's involvement with motor racing simulators led him to try out the real thing

Top right: Atari racing sim *Pole Position* arrived in 1982 and within a year was the world's most popular coin-operated arcade game

Right: Mexican NASCAR driver Daniel Suárez raced in the eNASCAR iRacing Pro Invitational Race in 2020 at a virtual Texas Motor Speedway

“Dave Kaemmer is God!!!” Such was the overheated fanboy title of a thread that appeared more than a decade ago on Race Sim Central, a site that catered to the first generation of hardcore virtual racers. But in the years since, Dave Kaemmer has - astonishingly - graduated to even-more-mythic status as the co-founder and principal software guru of the online-racing leviathan iRacing.

“In my opinion, he founded the sim-racing genre,” says Tim Wheatley, who created the original Race Sim Central website and recently revived it. “I can’t overstate how important he is.”

Racing games have been a lifelong project for Kaemmer, a wiry, well-preserved 57-year-old resident of suburban Boston, Massachusetts. He was there at the birth of racing simulations for the masses, and he now stands at the pinnacle of what has improbably matured into a legitimate sport.

“It’s way beyond what I imagined it could get to,” he admits. “I look at the game today - and I call it a game because it is fun even though we didn’t set out to make it fun - and it blows me away because it is just like being in a race. For real racers, the greatest fear is not physical harm. It’s being slow. And that fear is definitely there on the computer.”

Millennials and members of Gen Z have never known a day without high-fidelity

racing video games. So it’s worth noting that the first title to feature a real-life circuit didn’t debut until 1982 - *Pole Position*, a monstrously successful and influential arcade game that replicated Fuji Speedway in blocky two-dimensional graphics in the *Space Invaders/Pac-Man* idiom.

Kaemmer graduated from Oberlin College in Ohio in 1985 with a degree in mathematics because it didn’t offer a computer-programming course. After a couple of years unhappily writing business and educational software in Boston’s Route 128 technology corridor, which was emerging as an East Coast version of Silicon Valley, he and a friend flew to California to pitch Electronic Arts with a proposal for a flight simulator program. No sale. Instead, EA asked them if they could create a video game simulating the Indianapolis 500.

As it happens, Kaemmer had grown up in Indiana, where, as he drolly puts it, “Memorial Day was Race Day. The Indy 500 was always blacked out on local TV, but I could listen to it on the radio. I remember being at a picnic one Memorial Day, and my family was having a good time at the lake

“I look at the game and it blows me away. It’s like being in a real race”



Papyrus's *Indianapolis 500: The Simulation* from 1989 was a full sim of the race with 33 cars

while I was sitting in a hot car, listening to the radio, because Tom Sneva was racing, and he was my guy.”

The major weakness of racing games of the day was that they featured a top-down perspective. To enhance realism, Kaemmer opted for an immersive first-person perspective, à la *Microsoft Flight Simulator*, and by writing in assembly language and performing all sorts of coding sleights of hand, he was able to produce 3D graphics that seemed positively magical at the time.

But Kaemmer was a software engineer rather than a race engineer, and he knew nothing about the technical side of motor sports. Carroll Smith’s book *Tune to Win* became his bible, with *Race Car Engineering & Mechanics* by Paul Van Valkenburgh filling in the gaps. The hardware limitations of the day - typically a mere 512K of RAM - translated into primitive vehicle dynamics, with the cars moving unrealistically along x-y axes. Nevertheless, the game allowed players to make set-up changes, and the car-damage model made the crashes even more entertaining.

When it appeared in 1989, *Indianapolis 500: The Simulation* was the first legitimate



Above left: virtual Darlington Raceway in South Carolina for the eNASCAR iRacing Pro Invitational Series race in May. It was won by Erik Jones

Left: spot the cars racing at a packed virtual Bristol Motor Speedway in Tennessee for the eNASCAR iRacing Pro Invitational Series race

Right: in the late 1990s while working on *Grand Prix Legends*, Kaemmer enrolled on a Skip Barber Racing course and began competing

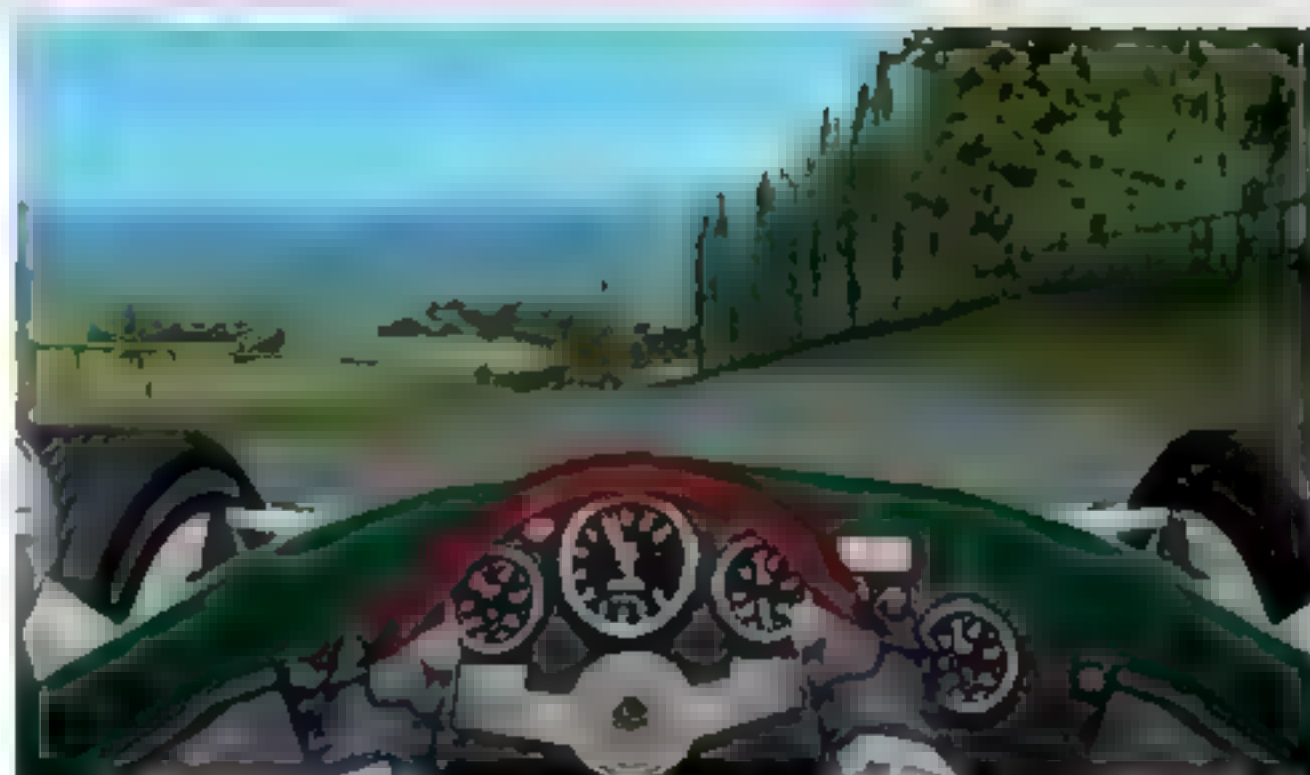


racing sim to reach the market, and it sparked a revolution. In the UK, Geoff Crammond would achieve cult status among simheads with his series of addictive *Grand Prix* games. In the States, Kaemmer's company, Papyrus Design Group, dominated this space with a pair of IndyCar titles and then a run of ever-more-realistic - and profitable - NASCAR games.

From the beginning, Kaemmer was badgered by critics who claimed that his cars were too hard to drive. Gamers were accustomed to be able to master games like *Forza* or *Gran Turismo* in a couple of sittings, and even the Crammond *Grand Prix* titles could be enjoyed at a recreational level by entry-level players. But Kaemmer's masterpieces, then and now, can be studied in frustration requiring an intimate familiarity with the reset button.

"We say here at iRacing, 'We don't care if it's fun or not. We care if it's real,'" he says. "We spend a lot more time trying to figure out if the numbers correlate with the real world. If you try to make an actual simulation of driving a race car, which we do, it turns out that beginners spend a lot of time spinning. Sometimes, we'll err on the side of maybe this is a little bit too difficult. But we're always trying to get the numbers right."

Although the NASCAR titles sold in large numbers, Kaemmer was hungry for something more challenging than stock cars pounding around ovals. He found inspiration in a book he'd received as a Christmas present a few years earlier - *The World Atlas of Motor Racing* by veteran Formula 1 journalist Joe Saward. Kaemmer wanted to recreate the Nordschleife, the original Spa and other fearsome tracks that had been de-fanged in the interest of safety. Better still,



"We'd get calls from parents who said, 'My son got a \$750 phone bill'"

he decided to do it with the 3-litre, non-wing, pre-slick-tyre F1 cars of 1967.

Grand Prix Legends, published in 1998, was the most ambitious racing sim ever released, and not just because it channelled a golden age of Formula 1 racing. *GPL*, as it's known to its obsessive devotees, was the first game to authentically simulate vehicle dynamics from dips and camber on race circuits to the effects of rotating engines and spinning wheels. The software underpinning *GPL* also allowed for multiplayer racing over the internet in the days of dial-up service.

"We set up a server in our office, and we got 128 phone lines, and we connected them to modems," Kaemmer recalls, "Right away, all 128 phone lines were jammed. We'd get calls from parents who said, 'My son just got a \$750 phone bill last month!'"

Lamentably, *GPL* was a commercial flop for a variety of reasons, most notably because the subject was so obscure to Americans and the cars were so diabolically difficult to keep on the track - even leaving the pits! (It continues to enjoy cult status, thanks to 'modders' who have used it as the basis for games revisiting everything from the 1955 F1 World Championship to the 1971 Can-Am series.) After working on a few more NASCAR titles, Kaemmer left Papyrus to pursue other interests. One of them, not so coincidentally, was real-world racing.

While working on *GPL*, Kaemmer had gone through the three-day programme at the Skip Barber Racing School at Lime Rock Park in Connecticut. Buoyed by this experience, he started competing in the arrive-and-drive spec series promoted by the school, which featured open-wheel tube-frame cars not unlike Formula Fords.

Kaemmer figures he entered about 100 races at many of the premier American tracks, winning 19 of them. "He was extremely good in a real race car," says Divina Galica, who entered three Formula 1 World Championship races in the 1970s before working as a Skip Barber instructor and later joining Kaemmer at iRacing. Kaemmer's crowning moment was driving a Porsche 996 GT3 Cup in the Daytona 24 Hours in 2007.

"It was great, it was really eye-opening, but it was stressful," he says. "I got to the point where I felt like if I spent some more money on racing, it would get increasingly dangerous, or I could pursue the gaming thing, and that seemed like a better way to spend my time."

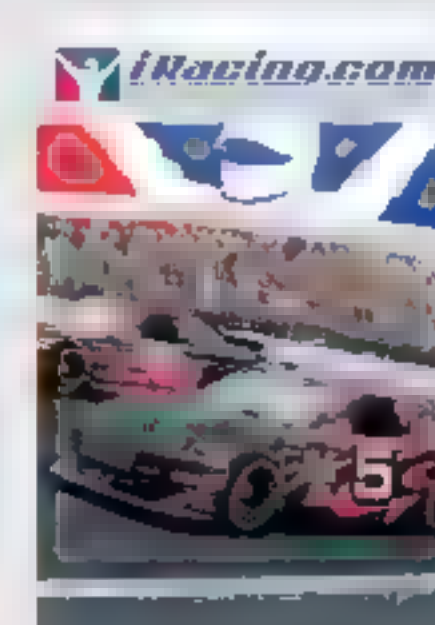
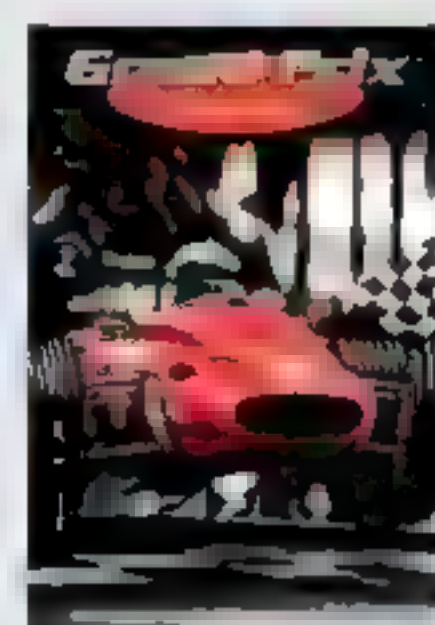
By then, Kaemmer had partnered with John Henry, an immensely successful American businessman who owned the



Left: Code from Papyrus's *NASCAR Racing* series became the basis of iRacing. Top: *Grand Prix Legends* from 1998 was set in the 1967 F1 season. Due to its realism, it was a tough game to play and sales were poor.



Those that mastered *GPL* could enjoy the most sophisticated sim to date. Above, from left: *Indianapolis 500: The Simulation* (1989); *NASCAR Racing* (1994); *Grand Prix Legends* (1998); *NASCAR*



Racing 2003 Season (2003); iRacing.com (2008). Right: Prominent iRacer Rajah Caruth, 18, is making the transformation from screen to track as part of NASCAR's Drive for Diversity Driver Development Program





Lando at Indianapolis...
IndyCar's Simon Pagenaud
and Norris collide at the
IndyCar iRacing Challenge
First Responder 175 at the
virtual Indianapolis Motor
Speedway in 2020



Left: Lando Norris is no stranger to the sim world. McLaren's Shadow esports team was launched in 2017 and in July the Shadow Studio opened, which will be based at the McLaren Technology Centre in Woking. Below: members can choose from more than 100 cars at iRacing



Boston Red Sox baseball team. (He would later buy Liverpool FC as well.) Henry was also a huge NASCAR fan; he currently co-owns Roush Fenway Racing. Playing Kaemmer's NASCAR racing game in an online league had convinced him that sim racing could be something more than a geeky pastime. As he explained back then: "I want to create the sport of virtual racing."

Kaemmer and Henry launched iRacing in 2008. At the time, it featured eight cars controlled by a modified version of the source code for *NASCAR Racing 4*, Kaemmer's last game before leaving Papyrus, and 22 laser-scanned North American racetracks. (It's now up to more than 100 cars and 100-plus tracks.) Because the digital circuits are virtually 100% accurate, they're used as training tools by everybody from lowly club racers to top-shelf pros.

"The Covid pandemic has been a huge windfall for iRacing"

Looking good is all very well, of course. But the essence of any racing simulator is the accuracy of the vehicle dynamics. Kaemmer and his crew have steadily upgraded the car physics over the years through input from real-world racers and teams as well as several former engineers who are now on the iRacing staff.

Kaemmer himself remains fanatically focused on where the rubber hits the road - that is, the contact patch. "He's a genius at developing the tyre model," Galica says. Adds iRacing executive vice president Steve Myers: "He's doing things with the tyre model that even tyre manufacturers don't attempt to do."

Tyre companies remain highly secretive about their products. But by deconstructing used race tyres, Kaemmer has reverse-engineered how they're put together and can convincingly predict how other shapes and sizes ought to work. "We describe the

tyre in a sort of simplified rubber recipe, the way the tyre compound would work," he says. "Then we construct it the way they would lay up a tyre on a drum to build it, specifying cords and angles and all this stuff. And at the end of the day, the model can crunch all that and give us the numbers that we need."

But even more than the accuracy of the tyre and physics models and the realism of the circuits, the factor that has transformed iRacing into a global phenomenon is the ability to race - virtually - against other human beings within a framework of rules governing action on and off the track. For those who haven't tried it, it's impossible to understand how immersive the experience is. The cars may not be real, but the racing most definitely is.

Dale Earnhardt Jr was one of the high-profile early adopters. On Sunday nights, after finishing a NASCAR Cup race, he would often enter an iRacing race to de-stress. Today, 23-year-old William Byron, who drives the No24 Chevrolet Camaro for Hendrick Motorsports, is the poster boy for a new generation of racers who've spent more time learning their craft on iRacing than they did on kart tracks.

Although Kaemmer and Myers obviously don't want to crow about it, the Covid pandemic has been a huge windfall for iRacing. With no live racing permitted in the United States, NASCAR and IndyCar dipped their toes into the esports world by partnering with iRacing to produce virtual races featuring driver rosters of series regulars. Unbelievably, the races attracted more than half the audience that normally would tune in to TV broadcasts of real racing.

Even though motor sports has returned to a semblance of normality since then, iRacing's footprint continues to grow. Since January, the subscriber base has jumped 54%, from 110,000 to 170,000. "We've turned into the Coke of the space," Myers says. "People don't call it sim racing; they call it iRacing. I can't go 10 feet in the NASCAR paddock without being stopped by a fan or a crew chief or a driver. It's become part of the fabric of the sport."

Has sim racing reached the promised land? Well, work is still being done on the margins with virtual reality and enhancements such as racing in the rain. But the graphics are nearly perfect, and the physics are about as good as they're going to get. "In some ways," Kaemmer says, "I feel we're kind of done."

On the seventh day, God rested. ●

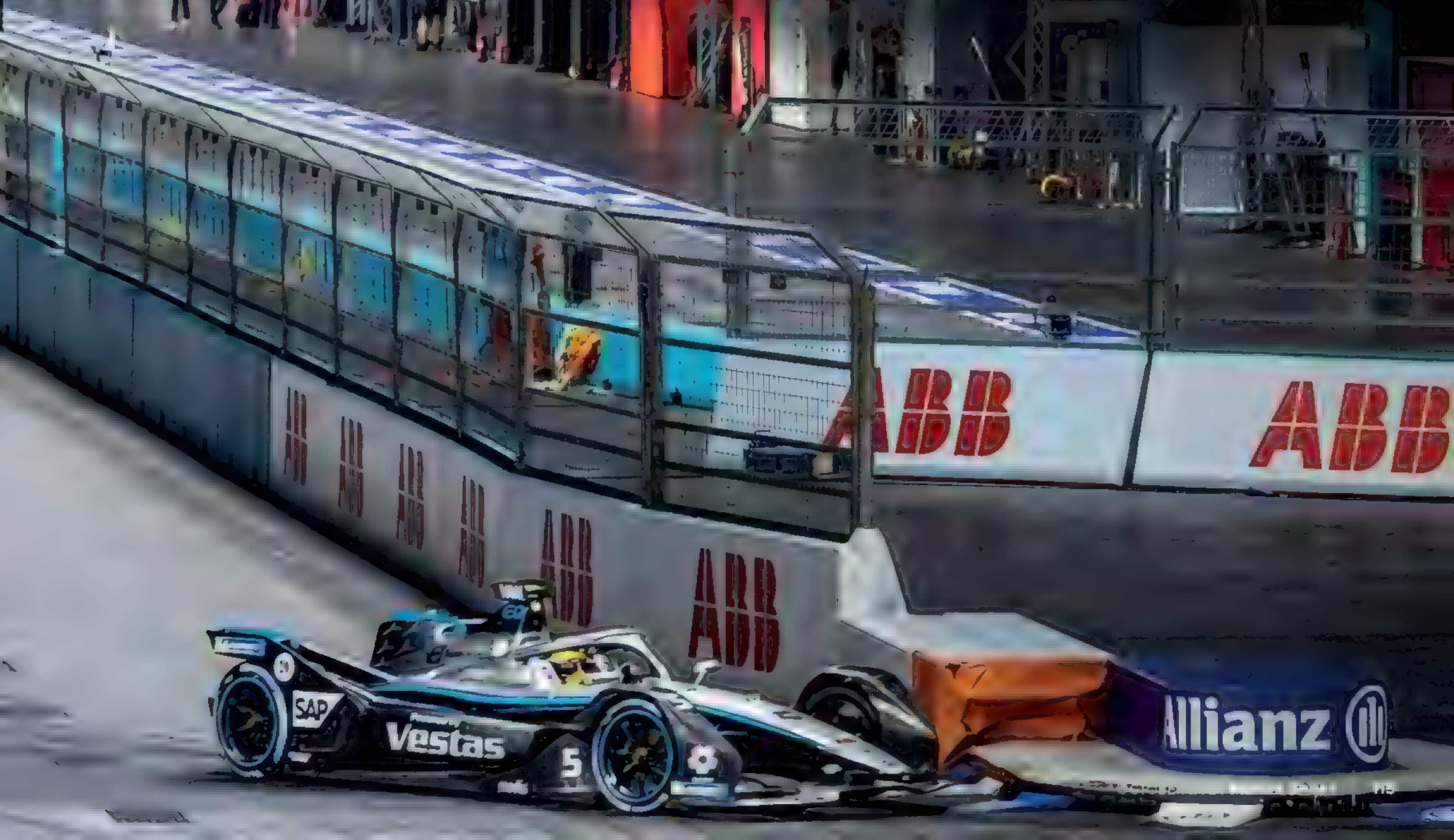
LONDON ePRIX-2021

The ExCel – and not
a Covid ward in sight.
The London ePrix's
indoor element is unique
in Formula E



A day at the E-races

When the London ePrix was last held – at Battersea Park – the locals were not amused. Five years on, Formula E returns to the capital in the dystopian setting of the ExCeL. **James Elson** rides the DLR to take in FE rounds 12 and 13



The silence, as they say, is deafening. Blinding artificial light bounces off gleaming bodywork as drivers sit motionless in their cars, while four Porsche pitcrew members stand stock still, directing what seems for a period like absent stares towards blinking screens.

Suddenly the team radio crackles into life and the drivers robotically reply, before gliding out into the pitlane in their electric machines. It feels like being inside an '80s sci-fi movie. But this is London 2021 and a Formula E race.

Motor Sport has found itself at the back of the Porsche Formula E pit garage, within the steel cathedral that is the Exhibition Centre for London (ExCeL) for the first ePrix race held in the UK for five years - and then another one, as this weekend is a double-header with Races 12 and 13 of the championship over a weekend.

It's also being held at the first ever inside/outside circuit. The paddock and pit complex are held within the cavernous interior, before the track heads outside, runs past some bemused passengers of the Docklands Light Railway, winds around the building before heading back inside.

Last time FE visited these shores, the Battersea Park-based circuit was stymied by, among other things, dog walkers complaining their routines had been upset - the whole event ultimately turned out to be a bit of damp squib. Could FE's 'London Calling' be any better this time round?

The event is officially being held behind closed doors due to not making the cut as a Covid test event, but we've been invited down as a guest to see what the noise (or some might say lack of) is all about.

Earlier that morning, we scurried through the ExCeL's bowels to emerge on a viewing platform looking down on the back straight of the circuit, as different coloured Spark SRT05e FE cars pierce the air and rain below us.

Vortexes of water swirl around rear wings as they squirrel towards the double hairpin below, the challenge presented by conditions, car and course all too obvious.

Mercedes driver Stoffel Vandoorne does his best to demonstrate the difficulty as he hits a



DLR passengers at Custom House for ExCeL have prime viewing as Audi's Lucas di Grassi rushes by below



Jake Dennis is practically
over the moon
win in Sauber
Right: Jake
Evans takes

puddle, nerfs into the wall and smashes the right-front suspension of his car.

While hardly a comparison for pre-hybrid F1 cars, these ones aren't exactly quiet, the whirl of the electric motors being almost jet-like (emphasis on the *almost*). Low-slung and sleek, the cars have considerable aesthetic appeal too.

What's immediately clear as the cars surge down the back straight is that Formula E struggles to communicate through TV broadcasts how much more entertaining it is in real life as opposed to on-screen.

Do they find the spectacle of electric racing exciting? "For sure," one long-time GP attendee attests. "But compared to V10 F1... well, there isn't any comparison." A compliment of sorts.

Eastender Alex Lynn puts his Mahindra on pole at his home race, as the challengers found themselves bogged way down.

FE's qualifying system sends the cars out in groups to set their fast laps, in order of championship position, with those higher up the table having to go out first. With the track evolving and 'gripping up' (or drying out on this occasion), the championship stragglers tend to get the more valuable real estate on the grid. Hence we have title challengers Sam Bird, Robin Frijns and António Félix da Costa qualifying in 18th, 22nd and 17th respectively.

Lynn was ahead of countryman Jake Dennis, driving for BMW, with former Toro


"It's going to be a shuntfest. I prefer circuits where you can overtake"

Rosso man and three-time Le Mans winner Sébastien Buemi in third.

A 22-turn, tight and twisty challenge, the ExCeL circuit doesn't offer up much in the way of overtaking, and Formula E pilots in the paddock explain the ultimate effect of this.

"It's going to be a shuntfest, for sure," Virgin's Robin Frijns tells us in between mouthfuls of energy bar, as he stocks up for Race 12. "I think it's a tiny and very technical track - I prefer circuits where you can overtake."

Asked whether he likes the track at all, the Dutchman simply replies, "No."

Two-time Formula E champion Jean-Éric Vergne concurs with Frijns in some ways, 

saying the track provides a satisfying technical challenge, but leaves drivers with two options – settle for your position or shed some French carbon fibre on the track.

“It’s fun, it’s a cool track,” the DS Techeetah driver says. “Just some hairpins are way too narrow. I think it’s gonna be near mission impossible to overtake. I think Spark will be happy. [They will] make a lot of money [as a result of the damage].”

In the Porsche garage, triple Le Mans winner André Lotterer predicts that he can put the car between “first and third” in qualifying (he manages fifth), borrowing a famous Nelson Piquet quote to describe the track.

“Driving here is like riding a bicycle round your living room – La Sarthe is like taking it out on a playground,” before retreating to his ‘driver lounge’, which is more Next sale fitting room than lavish F1 motor home. The German jokes it’s due to London’s high property prices as he pulls back the curtain.

It’s incredibly easy – and refreshing – to speak to drivers and team personnel in the paddock. Almost all are approachable and willing to give their time. The openness might be because of the strange circumstances we currently find ourselves in. It might be FE’s normal way of operating but it could also be because the majority of the lucky few present are either minor celebrities, social media ‘influencers’ or corporate guests – plus a few scruffy journos.

Many present at the ExCeL appear either uninterested or unable to understand what’s going on – more interested in FE guest of honour and supermodel Cara Delevingne getting a seat in a demonstration car rather than the fact they might have a multiple Le Mans winner in their midst.

You see similar scenes in F1, but the difference is this championship is struggling to engage the public. Perhaps if it had allocated more of the entry passes to real racing fans, as opposed to not many fans at all, it might start to gain more traction in the real world, too.

Endurance legend Allan McNish now heads up the Audi team, which recently announced its FE departure to focus on a Dakar assault next year and Le Mans in 2023. The team is still keen for a farewell win though – how would his outfit do so on such a difficult track to overtake?

“I think we can move up the grid,” he says. “I think there’s a few options.”

These turn out to be prescient words. In the second race the day after, his driver di Grassi pulled out perhaps one of the all-time canny motor sport moves, realising that the safety car was going so slowly during a yellow flag that if he went through the pitlane, he could overtake the field and emerge in front. The Brazilian was only denied by a time penalty for not coming to a complete stop in his pitbox.

BMW has also announced it’s leaving FE to focus on LMDh like Audi. Where does Mercedes stand on its future in the series as it looks to a third-generation car in 2022? “At the moment it’s all going good, but it’s in discussion,” Merc

“It’s fun, it’s a cool track. Just some hairpins are way too narrow”

racing boss Toto Wolff says in his usual Austrian drawl, while a Porsche representative stresses that Stuttgart is very much committed to the series, seeing a clear lineage through energy management learnings from its Le Mans-winning 919 through now to its FE car.

ONCE THE RACE SQUEALS TO life at 3pm, to a blizzard of flashing lights and rousing pop music, the carbon crunching immediately commences. Championship leader Sam Bird is taken out at the third turn along with fellow Brit Alexander Sims.

Nuneaton’s Jake Dennis would win that round, before the next day the ‘shuntfest’ predicted by Frijns does unfold. Vandoorne is T-boned out of the lead by careering Oliver Rowland, Lotterer inadvertently drives reigning champ da Costa into the pitwall, René Rast ploughs into the side of Buemi and di Grassi is black-flagged for ignoring his original pitlane penalty – which is then rescinded.

Lynn emerges victorious from the chaos to take his first-ever win in the series, on what proves to be a thrilling weekend of racing.

Despite this, the series still suffers an image problem: the cars also looked embarrassingly slow when racing in Valencia earlier this season, the bad image compounded when a miscalculation meant nearly all of the cars ran out of energy before the end of race.

Organisers hope that the new third-generation (Gen3) FE car which offers a considerable increase in performance will add to its appeal. A boost in power from 250kW (335bhp) to 350kW (470bhp), while the regen will be 600kW (800bhp) in total, 350kW from the front and 250kW from the rear, should improve the spectacle if nothing else.

Mark Preston, former Super Aguri team principal and now boss of reigning champion team DS Techeetah thinks so. “The amount of power going back in the batteries now is quite incredible,” he says. “When you look back to where we started [in 2014] to where we are going to be in January, it’s a really nice progression and hopefully all that incredible power and speed goes into the road cars.”

Long-time green energy advocate di Grassi is fully invested – in every sense. Without a berth for next year due to the Audi absence, he’s desperate to stay. “If I could choose between WEC and FE, I’d choose the latter,” he says.

Could FE’s new generation win over a few more of the detractors? The championship is certainly competitive. Incredibly, heading into these London E-races, the fourth and third-to-last of the season, all 24 drivers still had a mathematical chance of winning the title. ○



The narrow course meant overtaking chances were few, unless you employed alternative tactics



René Rast's Audi. Left, Britain in July. Below, another traffic jam in East London



A lap of ExCeL with Le Mans royalty

'Riccardo' Attwood proves he's lost little pace in a rollicking ride of the circuit



As is de rigueur at many motor sport events, some guests are afforded chauffeured laps of the track, taken round by a jobbing race driver. Usually it's Silverstone or COTA on offer though, not inside and out the ExCeL in London's Docklands.

Companies such as BMW, Mercedes and Porsche woo

those present with a whole variety of e-sports cars – and *Motor Sport* soon finds itself herded into a semi-orderly queue onto the track, before an all-electric Taycan pulls up and we climb in.

"Richard – call me Riccardo!" the man of advanced years says as we are introduced.

Our brain has barely had time to compute that it's being taken for a spin round the ExCeL by none other than Richard Attwood inset, Stuttgart's first-ever overall Le Mans winner, before the MGUs kick in and we're hurtling towards the first bend.

He may be 81, but the 917-tamer's instinct is still there.

We're clinging on for dear life as Attwood flings the Porsche into each corner while announcing, "I don't know this circuit at all."

Shaken, probably stirred, but still intact after Attwood's fast lap, *Motor Sport* staggers off to the pitlane to contemplate having just been in the presence of sports car racing royalty.

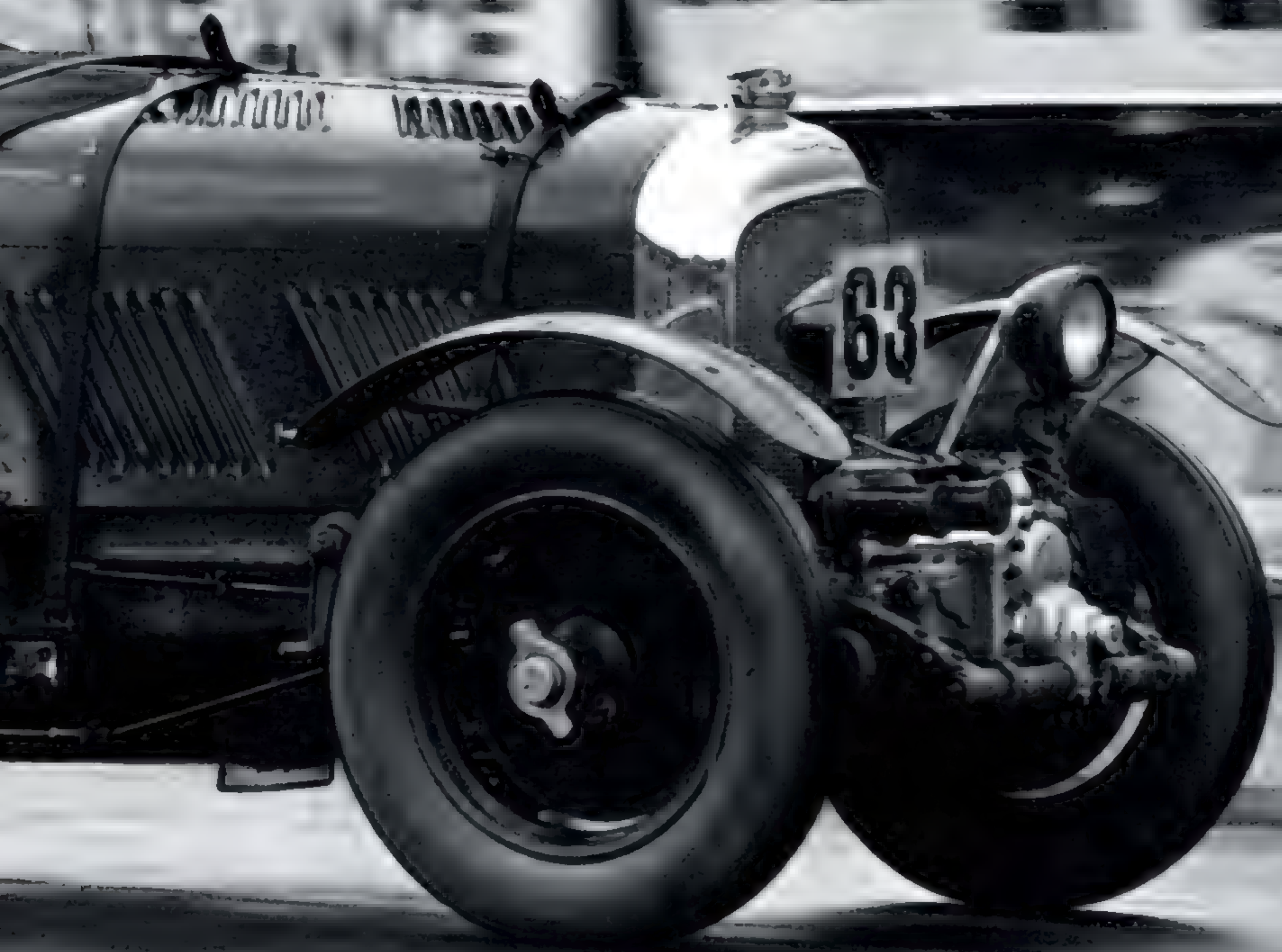
THE EMP



Four Le Mans wins from 1927-30 made Bentley a household name, while its drivers became the poster boys of their day.

Doug Nye inspects the legendary supercharged 4½-litre 'Blower' that was supposed to take the marque to the next level. In reality was it magic, or is its charisma based on a myth?

REGAMES



ENTHUSIAST TASTES CHANGE inevitably with each generation. Most of us grow up in motor sport entranced by the successful cars of our personally formative era. Therefore it's perfectly natural for enthusiasts in later life to hold those same cars in great esteem, despite the passing years. And when we finally lose interest - living or dead - a fresh

majority fanbase replaces us, with broadly different tastes absorbed from a later era. It's a natural, right and proper progression - but a broader perspective is always healthy...

When I first became involved in the racing world of the early 1960s, I found legions of older-generation enthusiasts positively misty-eyed over the great cars of the 1920s - the straight-eight Delage Grand Prix cars of 1926-27 seemed especially iconic,

while a particularly tweedy or blazered band of snowy-haired oldies would blether on about "the great days of Bentley at Le Mans". A slightly younger group glazed over nostalgically at having seen "the Mercs and Auto Unions" blasting around Donington Park in 1937-38, "...leaping head-high over the Melbourne hump".

But even then there were younger people with wider tastes, wider interests - not

FUEL TANK

Production Blower Bentleys used a 16-gallon (imperial, of course) fuel tank, later enlarged to 25 gallons, meaning a full fuel-load weight of 120lb (54kg), later 187.5lb (84.8kg), overhung outboard of the back axle – bad news for tyre stress. The tank's underside was shielded against flying stones, common on circuits of the 1920s/30s. Both pressure line – from cockpit hand-pump operated by riding mechanic (if carried) – and petrol line were duplicated for racing

BACK AXLE

The back axle was of underslung semi-floating type in welded pressed-steel with 'lightweight' elektron-alloy nosepiece. Final-drive options were 15/53 and 15/50. With an all-up car weight of some 33-34cwt (3696-3808lb) the hard-pressed axle had a lot to drive, the Dunlop tyres a burden to accelerate, brake, and corner

BODYWORK

'Lightweight' body as used by Paget/Birkin team cars initially, the 'British Flexible' fabric-skinned type by Harrison, with metal bonnet panelling. Blowers were also bodied in shallower style by Vanden Plas – all on the 'girder' chassis by Mechans of Glasgow

GEARBOX

Bentley D-Type gearbox with four forward ratios and reverse; right-hand gated gear change in cockpit to right of driver, handbrake lever outboard on the same side

least those, usually with family heritage, who even then would bubble on about veteran cars, pre-1904 – so ours has always been a catholic church, of broadest taste. Perhaps I most recall the burgeoning enthusiasm of the Bentley fraternity whose faith was founded – totally justifiably – upon those five Le Mans 24-Hour race wins, 1924 and 1927, '28, '29 and '30 inclusive. What a heady legend the Bentley tale provided.

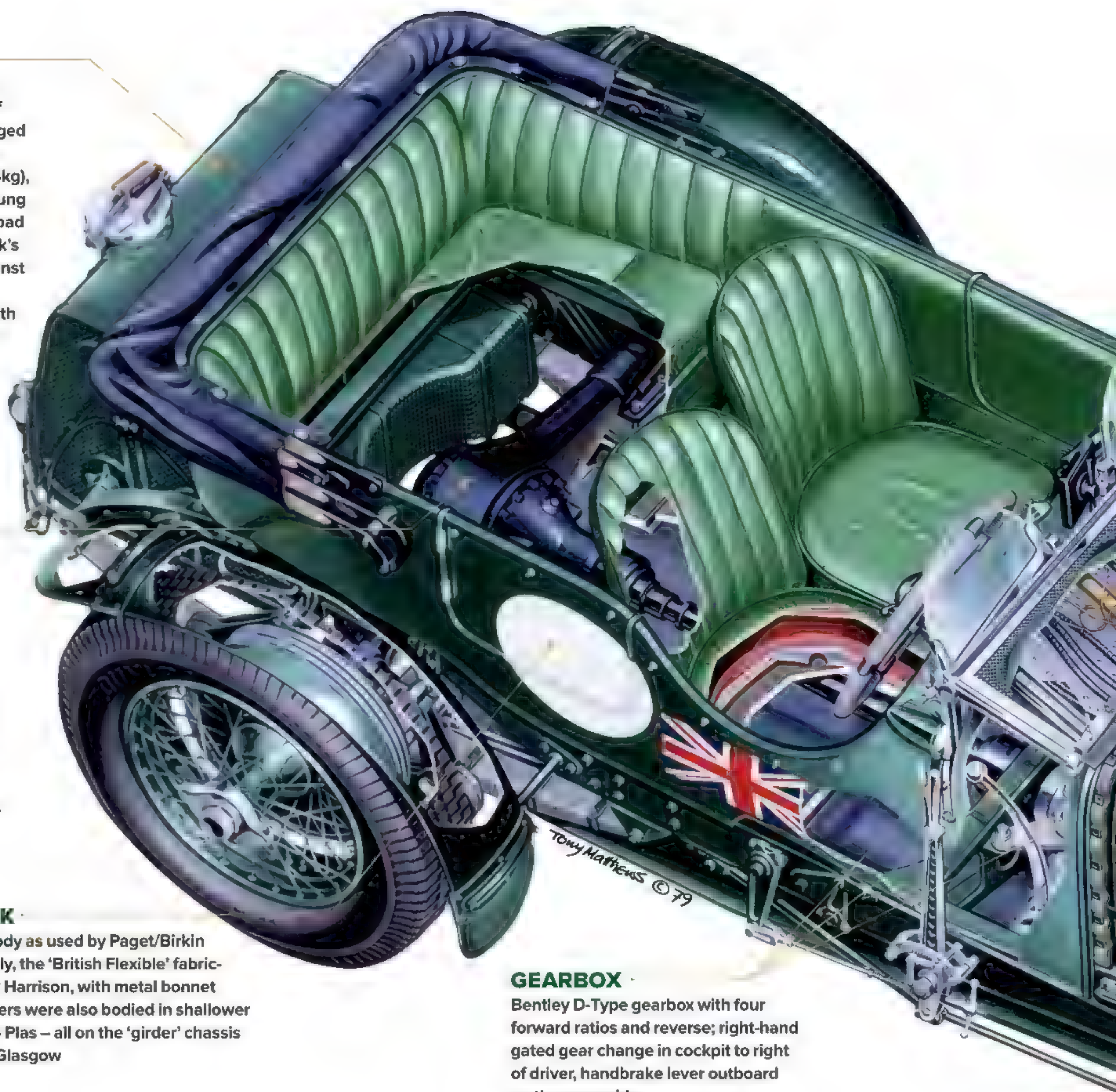
The Le Mans-winning Bentley models were, in order, the '90mph' 3-litre four-cylinder of 1924 and 1927, the enlarged and more powerful '92mph' 4½-litre four-cylinder of 1928, and ultimately the 6½-litre six-cylinder Speed Six of 1929 and 1930. The original 3-litre was a large machine, in keeping with designer W.O. Bentley's basic concept of building-in rugged reliability, but viewed in isolation it looked more trim, fit and spartan than what would follow. The

4½-litre looked distinctly more muscular, deeper-chested, husky – while the Speed Six just looked pretty much gigantic. Ettore Bugatti – whose cars were overtly more clever in concept, more elegant, lightly-scantled, recognising the performance advantage of power-to-weight ratio – famously described the Bentley as being "the fastest lorry in the world", but then he would, wouldn't he, having just had his finest outrun and/or outlasted where it mattered, and where the prize and bonus (and resultant sales) money was earned, at Le Mans.

But if the great Bentley sports cars might seem almost gratuitously big and hefty, and over-engineered – and overweight – they also conveyed an image of imperial British might which was much in keeping with the tenor of the 'tween-war years. Of course Great Britain's place as a previously dominant world power had sustained an almost

crippling body blow by the cost – in every respect – of World War I. In motor sporting terms Sunbeam had achieved some fleeting British industrial prestige in Grand Prix racing 1923-24, only to flare and fade. Bentley did very much better in the sports car field, winning overall where it really mattered, not just accumulating mere class success and sometimes dominance where, beyond the motoring fraternity, it barely impacted one iota upon general public perception – as with Austin, MG, Riley and (whisper it) Talbot and Aston Martin too.

The Britannic Bentleys attracted sports-minded backers of celebrity social standing. Multi-millionaire Woolf 'Babe' Barnato led the way, with aristocratic, daring, talented, celebrity star driver Sir Henry 'Tim' Birkin the darling of the popular press, and of the London society scene. 'The Bentley Boys' were celebrated as courageous sportsmen



SCREENS

Adjustable-angle aero screens for driver and riding mechanic behind fold-forward mesh stone-screen. The crew had precious little else in terms of 'protection'. Leather seats didn't provide much in the way of lateral support; 'rigid' crash helmets were optional

WHEELS

On long circuits it was often quicker to replace a punctured tyre on the circuit than limp to the pits on the flat. A spare 21in diameter x 6.00 wheel and tyre was a very substantial left-side weight – uncompensated unless no riding mechanic was carried, as at Le Mans

ENGINE

Four-cylinder five-main-bearing single overhead camshaft engine, bore x stroke 100mm x 140mm, 4398cc, four valves per cylinder, forged-steel 'heavy' crankshaft, weight 75lb, compression ratio range 4.5–5.3:1, Bosch magneto ignition, two plugs per-cylinder, twin blow-off valves on inlet manifold, output c175bhp at 3500rpm – 182bhp at 3900rpm

BRAKES

Fully compensated drum brake system front and rear, with Bentley-Perrot actuation and 400mm (15.7in) diameter finned drums

AMHERST VILLIERS SUPERCHARGER

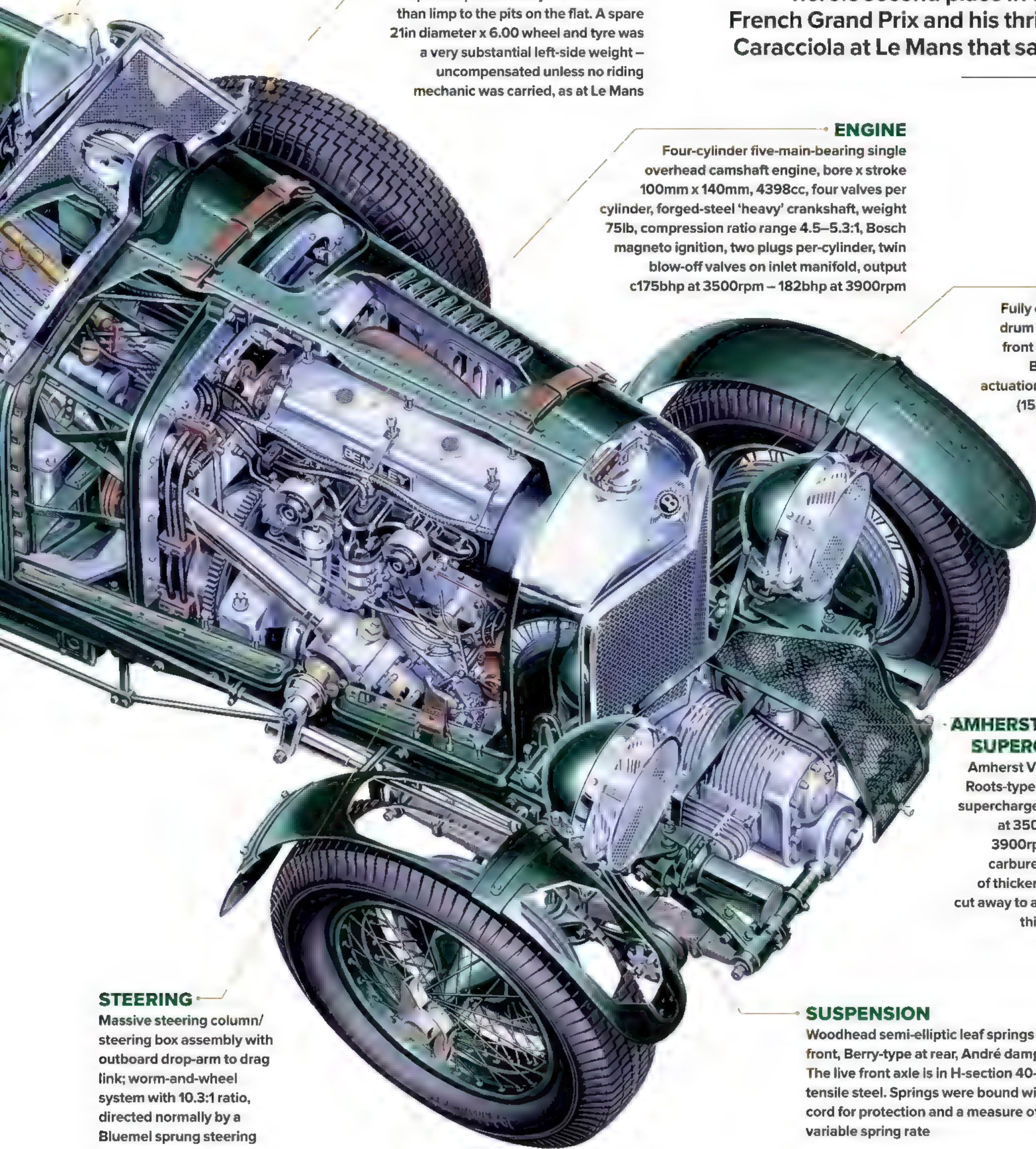
Amherst Villiers Mark IV Roots-type ribbed-cased supercharger, 9½lb boost at 3500rpm, 10lb at 3900rpm. SU HVG 3 carburettors. Bottom of thicker radiator core cut away to accommodate this compressor

SUSPENSION

Woodhead semi-elliptic leaf springs at front, Berry-type at rear, André dampers. The live front axle is in H-section 40-ton tensile steel. Springs were bound with cord for protection and a measure of variable spring rate

STEERING

Massive steering column/steering box assembly with outboard drop-arm to drag link; worm-and-wheel system with 10.3:1 ratio, directed normally by a Bluemel sprung steering wheel in cockpit



4½-LITRE BLOWER BENTLEY

out there racing for Britain when not cavorting dinner-jacketed in five-star London hotels, restaurants and clubs – cutting a swathe through debutantes, starlets and minor female nobility alike.

The newspaper and magazine image of Birkin showed a cravat and polka dot scarf-wearing hero to be idolised. In person the Nottingham lace-family scion was slightly built, rather shy and diffident in nature, and spoke with a distinct stutter. Through the 1920s and '30s a relatively small fortune could go a tremendously long way, and amongst The Bentley Boys, Henry Birkin through his racing exploits gained tremendous celebrity while turning a modest inherited fortune into a smaller one, and very quickly into near penury...

THE 'BLOWER' BENTLEY contributed considerably to Birkin's failing personal fortune. This supercharged 4½-litre model assumed star status in 1929-30 thanks largely to Birkin's lap record-shattering exploits with it. Contrary to the legend which the Blower Bentley would become, in period it proved an unreliable racing failure. But celebrity status often ignores reality, and Ian Fleming's choice from 1953 of the Blower as his character James Bond's preferred personal transport conferred a glamour espoused by the largely uncritical, unknowing many... Walter Owen Bentley was himself outspokenly sceptical – to supercharge a Bentley engine was to "pervert its design and corrupt its performance". But Birkin had the approval of company financier Woolf 'Babe' Barnato, of the South African diamond-mining zillions...

As early as 1926 'W.O.' had realised that his initial 3-litre model was not going to last long as a racing front-runner. Even a leading Bentley Drivers Club luminary of the 1980s dismissed the 3-litre to me as being a car which could only climb Prescott so slowly "I was shaking hands with every marshal along the way".

The prototype 4½-litre engine was fitted to the 1927 3-litre Le Mans practice car. At Le Mans, co-driven by Frank Clement/Leslie Callingham, it set fastest lap before being eliminated in the famous White House crash. The car was christened Old Mother Gun and it would win the 1927 GP de Paris at Montlhéry (shared by Frank Clement/Jack Duller), and Le Mans in 1928 (Woolf Barnato/Bernard Rubin). The 4½-litre used a 10ft 10in wheelbase chassis as standard, while nine special 'lightweight' cars were added to

customer order on 9ft 9½in frames. All vintage Bentley frames were made by Mechans of Glasgow.

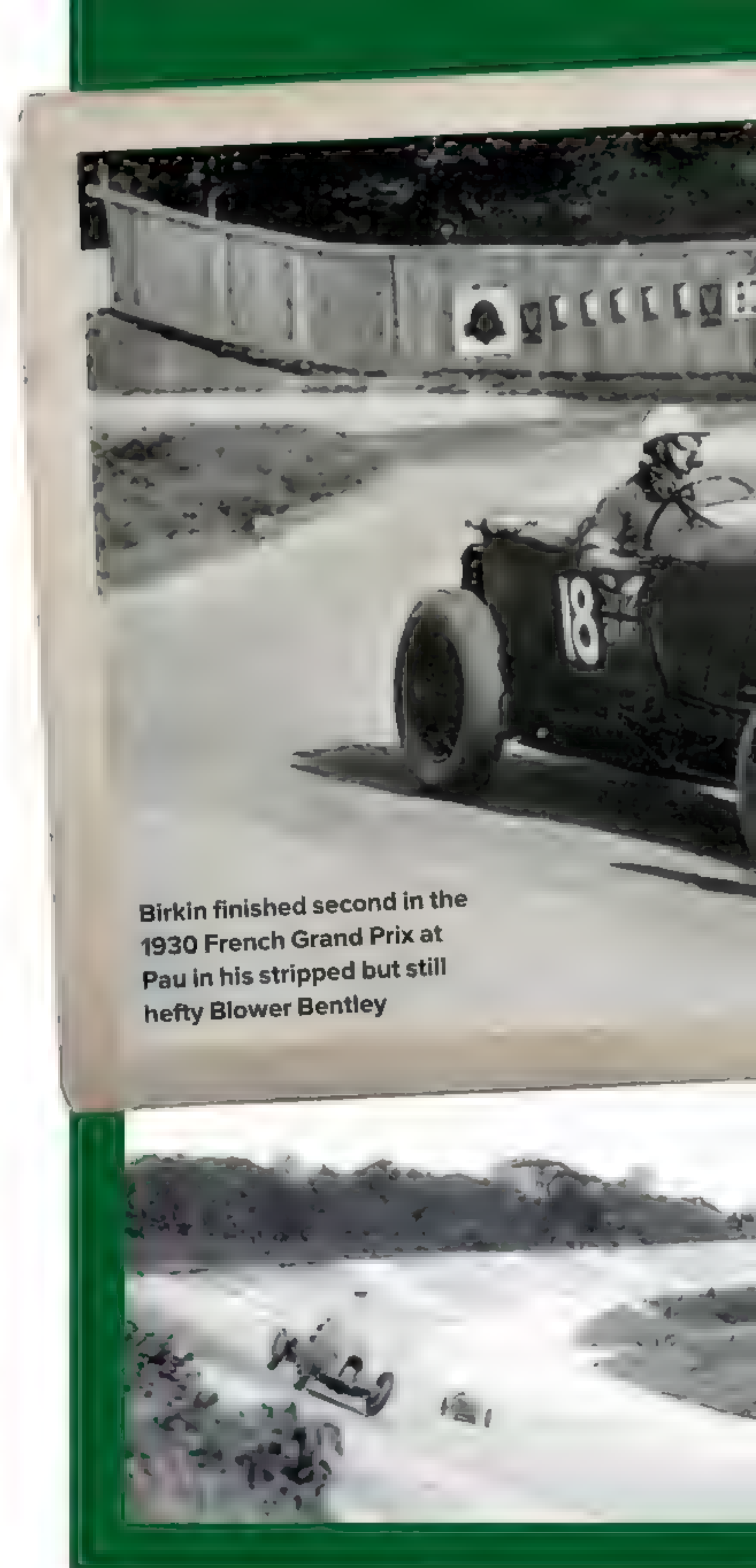
The ambitious Tim Birkin craved even more speed and power than the 4½-litre could offer and despite W.O.'s vocal opposition Barnato backed his friend's proposal and engineer Amherst Villiers – who had been so successful with Raymond Mays's Villiers Vauxhall Supercharged special – was commissioned to design a Roots-type supercharger to give the four-cylinder engine "real vim!".

Birkin set up a workshop in partnership with Mike Couper in Welwyn Garden City to prepare a team of special supercharged 'Birkin Blower' Bentleys. Supercharging boosted the 4½-litre's output from 110bhp to 175bhp, but Villiers specified a special counterbalanced crankshaft for Birkin & Couper's race cars which was not used on the production version, causing them centre-main bearing failures.

Fifty 105mph Blowers were to be built, matching the minimum production requirement for Le Mans to permit Birkin to enter his cars there in 1930. News of the uprated model's production was broken in *The Autocar* of July 5, 1929, but Birkin's enterprise would not have been possible without the initially lavish financial backing of the eccentric, beret-wearing (and bulky) Hon. Dorothy Wyndham Paget – spendthrift millionairess daughter of Lord Queenborough and Pauline Payne Whitney, of the immensely wealthy American Whitney family. Miss Paget was better known as a race horse owner, including the legendary Golden Miller, five times winner of the Cheltenham Gold Cup and once of the Grand National.

She would become famous for backing losers, and sadly the Blower Bentley – despite its modern-era charisma – was one of them. Bentley authority Clare Hay found that five 'proper' Birkin Blowers were produced. The first was registered 'YU 3250' although that registration's history amongst Bentleys is complex. The second car became 'UU 5871' reworked as the Birkin Single-Seater – the Brooklands Outer Circuit car which would become the only Blower ever to win a race in period. The third car was registered 'UU 5872', rebuilt on a 9ft 9½in chassis and rebodied by Vanden Plas to become "Birkin's favourite road car". Chassis No4 was registered 'UR 6571' – and the fifth became 'UR 9155' assembled from spares on a 10ft 10in chassis, possibly re-used from one of its older sisters.

The first Blower Bentley to be raced was 'UU 5871' fitted with a high-sided Harrison

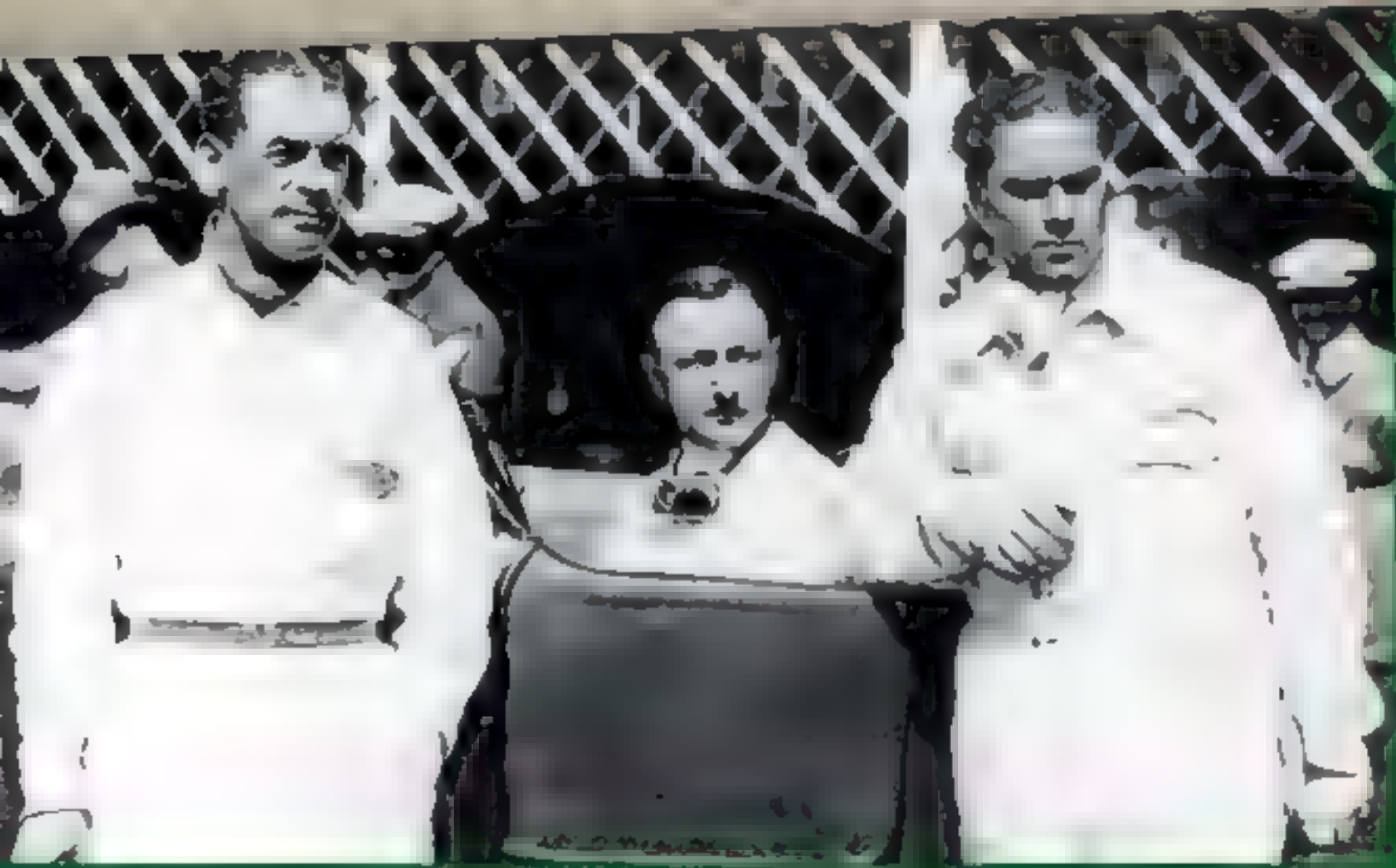


Birkin finished second in the 1930 French Grand Prix at Pau in his stripped but still hefty Blower Bentley

'British Flexible' body and driven by Birkin in the Brooklands 6 Hours of June 29, 1929. It proved rapid – but retired, possibly with lubrication trouble as the nose-mounted supercharger obstructed cooling airflow around the engine's sump.

Both 'UU 5871' and '5872' then contested the Irish GP in Dublin's Phoenix Park on July 13 – drivers Birkin and Bernard Rubin. Boris Ivanowski's Alfa Romeo won on a blisteringly hot day, with Glen Kidston's Speed Six Bentley second, Birkin's Blower promisingly third and Rubin eighth after spinning on melting tar. The following TT at Ards on August 17 saw three Blowers start, and only one finish – Birkin's, second on speed and 11th overall on handicap. Caracciola's Mercedes-Benz SSK beat the Bentleys on home soil. That stung.

Only one Blower – 'UU 5871' – contested the Brooklands 500 Miles on October 12, amongst an entry including three unblown 4½-litre cars and one Speed Six. Frank Clement and Jack Barclay won in their 4½-litre, with 'Sammy' Davis and Clive Dunfee



Below left: Birkin's red Blower Bentley Single-Seater, which did actually win races, is seen at Brooklands, practically airborne on the hump at

the Members' Banking where the river bridge had sunk. In 2012 the car was sold by Bonhams for £5m. Below centre: Bentley Boys, from left, Frank

Clement, Birkin and Woolf 'Babe' Barnato. Below: The National Motor Museum's 4½-litre Blower – note the cord-bound steering wheel for grip



“Birkin craved even more power than the 4½-litre could offer”

finishing second in the Speed Six. Birkin retired when an exhaust joint disintegrated, as the estranged and doubting W.O. Bentley had predicted pre-race.

The big Speed Six was inherently lower-stressed and more reliable than even the unblown 4½-litre team cars, and two of them promptly finished 1-2 in the 1930 Brooklands Double Twelve (24-hour race) on May 9/10. Three Blowers failed to finish - 'UU 5872' for Birkin/Jean Chassagne, 'YU 3250' for Glen Kidston/Clive Dunfee and 'UR 6571' for Dr J.D. Benjafield/Baron d'Erlanger. Birkin had led at over 94mph, only to hit a concrete kerb when trying to pass back-markers on the Finishing Straight, cracking his car's chassis frame. Dunfee had a valve break. Benjafield's car had its back-axle pinion strip,

he pushing it manfully back towards the pits where team manager Bertie Kensington-Moir greeted him with, “Come on old love, what can I do for you?”.

Le Mans on the weekend of June 21/22, 1930, saw the same three team Blowers running, co-driven by Birkin/Chassagne, Dunfee/Beris Harcourt-Wood and Giulio Ramponi/Dr Benjafield. Bentley domination was said to have influenced the fact there were only 19 entries (this was the middle of the Great Depression), and when the Blowers suffered overheating on the poor French fuel provided, pure benzole was substituted, requiring a modification to raise the compression. The team then ran out of time to convert all three cars, so the Dunfee/Harcourt-Wood Blower non-started.

Birkin was sent out as hare to draw the Caracciola/Werner Mercedes-Benz SSK to destruction. ‘Tiger Tim’ loved the sheer theatricality of what became their duel, surprising the immensely capable Caracciola by passing him near the end of the Mulsanne Straight, “at 120mph - with two wheels on the grass verge”. The Blower threw a tyre tread, but Birkin rejoined, set fastest lap at 89.69mph, then had another tyre fail. Bentley's almost perverse disregard for adding weight to their cars was perhaps even more marked when applied to the Blowers as “...the extra power would compensate”. A point missed?

The Blower Bentleys had a notably high centre of gravity and their speed and power combined with it to compromise tyre life even more than their basic 34cwt (3808lb) burden. Barnato took over harrying the Mercedes in the Speed Six he shared with Glen Kidston, and during the night the German challenge collapsed. Late on the Sunday morning Birkin's Blower broke a valve, and Benjafield's a

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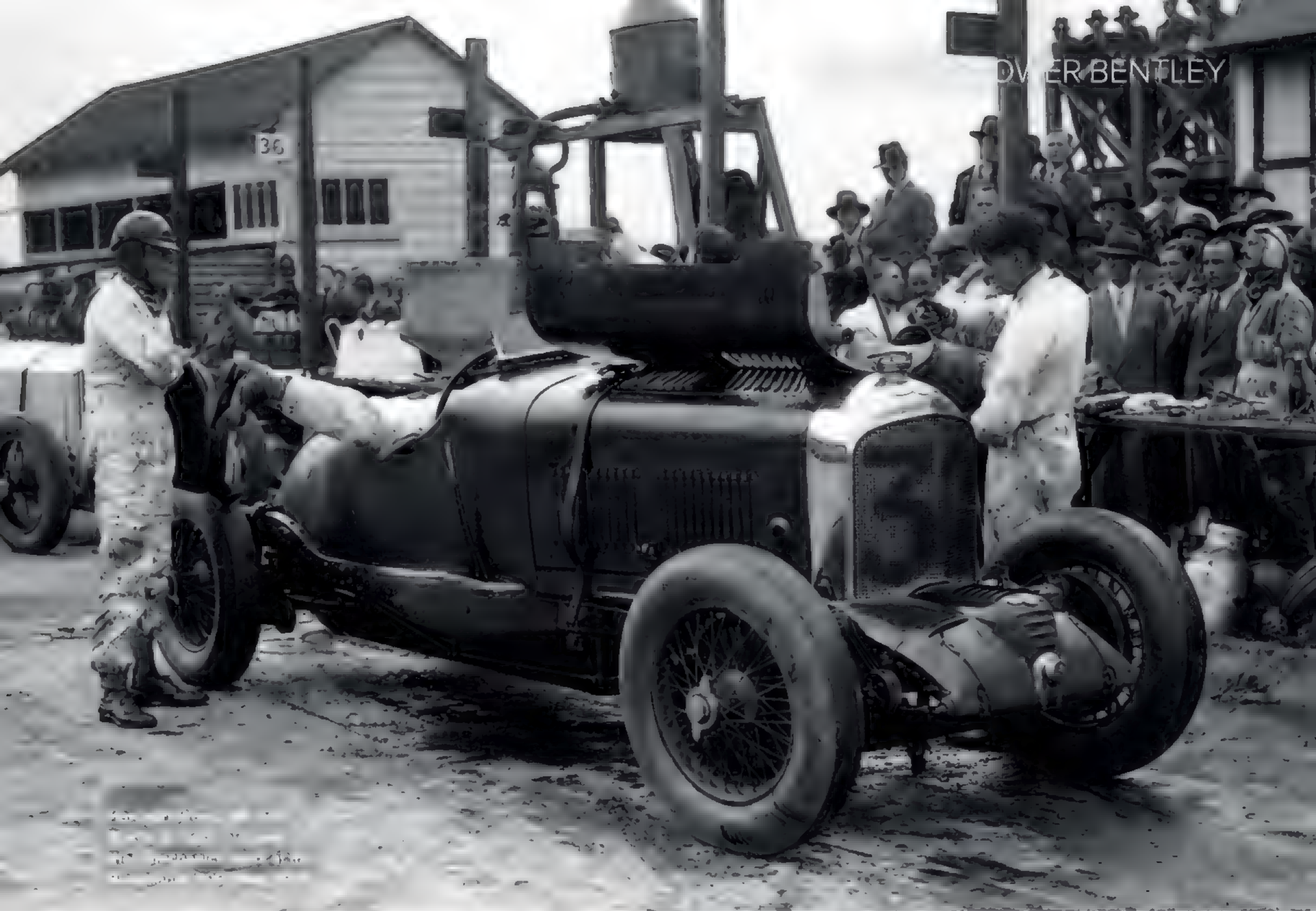
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RESTORATION AND BEYOND, FOR A LIFE LESS ORDINARY



In 1931, Bentley Motors Ltd entered receivership. The Boys had had their fun

piston. The Bentley Speed Sixes finished 1-2, with Barnato winning Le Mans for the third time in consecutive years.

The Birkin/Paget team contested the Irish GP on July 19 since the factory team had been shut down. Caracciola's Mercedes and Birkin's Blower again locked horns, but broken oil pipes and lubrication difficulties left Birkin to finish fourth in 'UU 5872', while Chassagne in 'UR 6571' and Harcourt-Wood's 'YU 3250' subsided.

Birkin was effectively flat broke. Dorothy Paget had told him her sponsorship was ending. The three-Blower entry for the TT at Ards on August 23 was in desperate hope of attracting an alternative sponsor. Caracciola's Mercedes was found to be using an oversized supercharger pre-race and was disqualified. But the Alfa Romeos of Tazio Nuvolari, Giuseppe Campari and Achille Varzi benefited greatly on handicap. In rain,

Birkin crashed his 'UU 5872' at Ballystockart Bridge, Bertie Kensington-Moir in 'YU 3250' finished 11th and Benjafield in 'UR 6571' placed 12th.

On September 21, the 1930 French Grand Prix was contested to *Formule Libre* rules on a road circuit outside Pau. Birkin ran 'UR 6571' to terrorise the home Bugattis on the long straights while being re-caught around the squiggles. His sports car famously finished second overall, beaten only by 'Phi-Phi' Etancelin's almost out-of-fuel Bugatti which would not have lasted another lap. But, still, the Blower Bentley had yet to win a single motor race.

The swan-song of the Birkin/Paget team followed on October 4 in the Brooklands 500 Miles race. Birkin/Duller shared the single-seater 'UU 5871', George Eyston and Harcourt-Wood 'UR 6571' and Benjafield/Eddie Hall 'UU 5872'. The reliable

latter pairing in their essentially unreliable but well-nursed Blower finished second, averaging 112.12mph for the distance, and throwing a rear tyre tread just as it crossed the finishing line. Eyston/Harcourt-Wood retired with magneto drive failure. The single-seater misfired home in ninth place.

Dorothy Paget's investment in Birkin & Couper Ltd's Blower Bentley programme had also misfired. She would retain the Single-Seater for six years beyond Birkin's death in 1933, and before the end of 1930 the three road cars were offered for sale.

On July 10, 1931, Bentley Motors Ltd itself entered receivership. The Boys had had their fun... but the Bentley marque - and the Blowers - would live on; the latter eventually proving to be rather more impressive road cars than they ever truly were as racers... ○



HISTORIC AWARDS 2021

The Royal Automobile Club's Historic Awards have been created to recognise excellence and outstanding contributions to the UK's historic motoring and motorsport industries.

Nominations close on Thursday 30th September and are now invited for the following categories:

- 1 Collection
- 2 Competitive Event
- 3 Innovation
- 4 Motoring Spectacle
- 5 Outstanding Journalism
- 6 Personality
- 7 Restoration
- 8 Young Achiever

The Awards will be presented on Thursday 25th November 2021 at the Royal Automobile Club at Pall Mall, culminating in the presentation of the Club's Lifetime Achievement Award.

To nominate or for more information about the evening go to
www.royalautomobileclubhistoricawards.co.uk

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THE SHOWROOM

BUYING, SELLING, AUCTIONS, MEMORABILIA



From left: Porsche 911 993 RS Clubsport; RSR; GT2 R (as raced by John Graham); and GT2 Clubsport

Bunch of lightweights

These four Porsche 993 rarities are in need of a loving home. **Simon de Burton** weighs up their pedigree credentials

IF YOU'VE ALWAYS FANCIED AN ULTRA-high-performance version of Porsche's legendary air-cooled swan-song, the 993, German dealer Jan B Lühn might leave you spoiled for choice with this remarkable quartet of examples which he's selling on behalf of a die-hard enthusiast who spent five years seeking out the best of the best. Not content with the regular coupé, cabriolet or Targa iterations of the perfectly

proportioned 993, he went on the hunt for the beefed-up RS and GT2 varieties in both road-legal and track-only forms - and the result is the so-called Leichtbau Collection (for 'lightweight') that you see here.

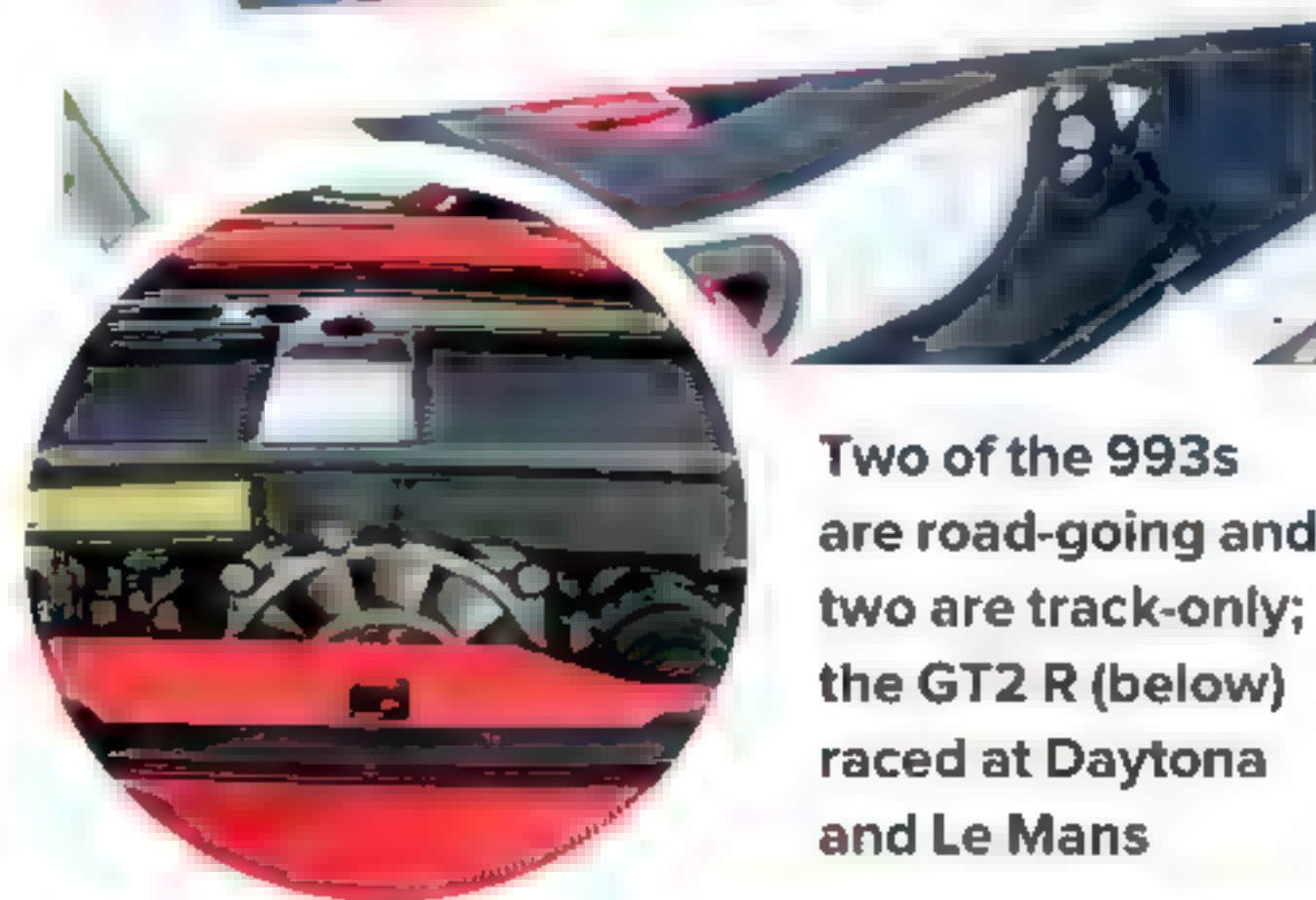
The most 'pedestrian' is a late 1995 RS model with the highly desirable M003 option code, which means it has Clubsport equipment. Only 217 of these cars were built, all featuring 300bhp flat-six engines with big valves, forged

pistons and upgraded electronics. This one earned its Leichtbau label thanks to an alloy bonnet, race seats in the front, none in the rear, wafer-thin glass, minimalist door cards and reduced soundproofing.

Other Clubsport deletions include carpets, electric windows, air-con and the radio, while additions include a rollcage and the aero kit comprising front and rear spoilers, side skirts and an engine lid air grille. **©**



The 911 GT2 R was the last of the 911s to be built in 1998.



Two of the 993s are road-going and two are track-only; the GT2 R (below) raced at Daytona and Le Mans



The second car is one of just 21 GT2 Clubsports homologated for the international GT2 class – hence the 3.6-litre twin-turbo engine from the standard four-wheel-drive road car, but this is rear-drive only and, thanks to its lighter weight, can touch 190mph with acceleration to match. Despite being treated to a restoration costing £125,000 by Porsche Classic in 2014, the car has barely been driven and is said to be one of the best examples of its type in existence.

The remaining two 993s are track-only models, the first being a Cup 3.8 RSR – Porsche's 'off-the-shelf' endurance racer that Lühn describes as "the last, truly hand-built 911". Just 30 were made, with this one being supplied new to the Zakspeed racing team which campaigned it from 1997-2000.

Finally comes a GT2 R which was the first of the 13 made in 1998 after the success of the original double Le Mans class-winning 450bhp

models began to wane. As a result, this car boasts 485bhp, wider wheels, a revised aero package and better suspension.

Delivered new to Canadian endurance racer John Graham, it went on to enjoy a decidedly active racing life until 2000, competing everywhere from Daytona to Le Mans and chalking-up several podium finishes. Fully restored at Freisinger Motorsport in 2013, it remains – like the other cars in the collection – in superb condition.

Lühn is offering them all 'price on request' and they can be bought individually or as a ready-made collection. It all depends on how much of a 993 itch there is to scratch...

THE LEICHTBAU COLLECTION PORSCHE 911 993s

On offer individually or as a whole, price on request, with Jan B Lühn, Münster, Germany. janluehn.com

All enquiries to Stirling Moss, Tring 2181

In 1950, **STIRLING MOSS** owned and raced a **COOPER MARK IV T12**. From 23 outings, it scored 12 first-placed finishes but by Christmas it was in the classifieds. "Winner of Monaco, Silverstone, etc," read the ad, with all enquiries to Moss on Tring 2181. It's currently on sale at **TERENCE MORLEY CLASSIC CARS** in Kent for £385,000, including photographs – and the ad.

The final version of the **FORD CAPRI** was the 1986 limited edition Mark III **280 'BROOKLANDS'**. All were right-hand drive with a 2.8-litre V6 engine and each was green, hence the Brooklands nickname. Of



the 1038 built, there are now just 90 280s on UK roads, and this one, *below left*, with 50,000 miles on the clock, is available at **KGF CLASSIC CARS** in Peterborough for £34,995.

According to research by South-West dealership group **DICK LOVETT**, **TIKTOK**'s most-loved car company is **BMW**, with a total of 22 billion views – double Audi's figure in

second place. However, the model TikTokites can't get enough of is the **AUDI TT**, with 5.5 billion views.

Five stretched **2015 BENTLEY MULSANNE GRAND LIMOUSINES** that were shipped to the UAE but never registered or used are on sale at **BENTLEY EMIRATES**. Got a thirst on? You'll find the champagne flutes between the front-facing seats.

You may remember him as Dirk Diggler in *Boogie Nights* or as the cap-worn-backwards frontman of 1990s hip-hop ensemble Marky Mark and the Funky Bunch, but these days Mark Wahlberg is acquiring Ohio Chevrolet dealerships like they're going out of fashion. His fifth is **MARK WAHLBERG CHEVROLET OF AVON**. And next? He hopes to expand to Boston – his home town. **Lee Gale**



1971 Lancia Fulvia Coupé Rallye 1.6 HF „Fanalone“

This Original and rare Lancia „Fanalone“ (only 1258 built) with Chassis #8185400001986 was delivered new in Switzerland and first registered in January 1971. It is believed to have had only 2 owners from new. 2018-2019 the car was perfectly „nut and bolt“ restored to lightweight specification with aluminium hoods and plexiglas windows regardless of any costs. A detailed restoration report is available in German. It has a FIVA Passport and a Swiss Veteran registration from 2019.

EUR 125'000

1970 Porsche 911 S Coupé

This car was built-up/restored to FIA GR 4 specification in 2010 and has an expired FIA HTP from Period G2 (1970-1971) Class GTS 21. The car was completely stripped down and the paint „bath-removed“ and then KTL-primed. Double ignition engine built on original engine bloc (270 HP).

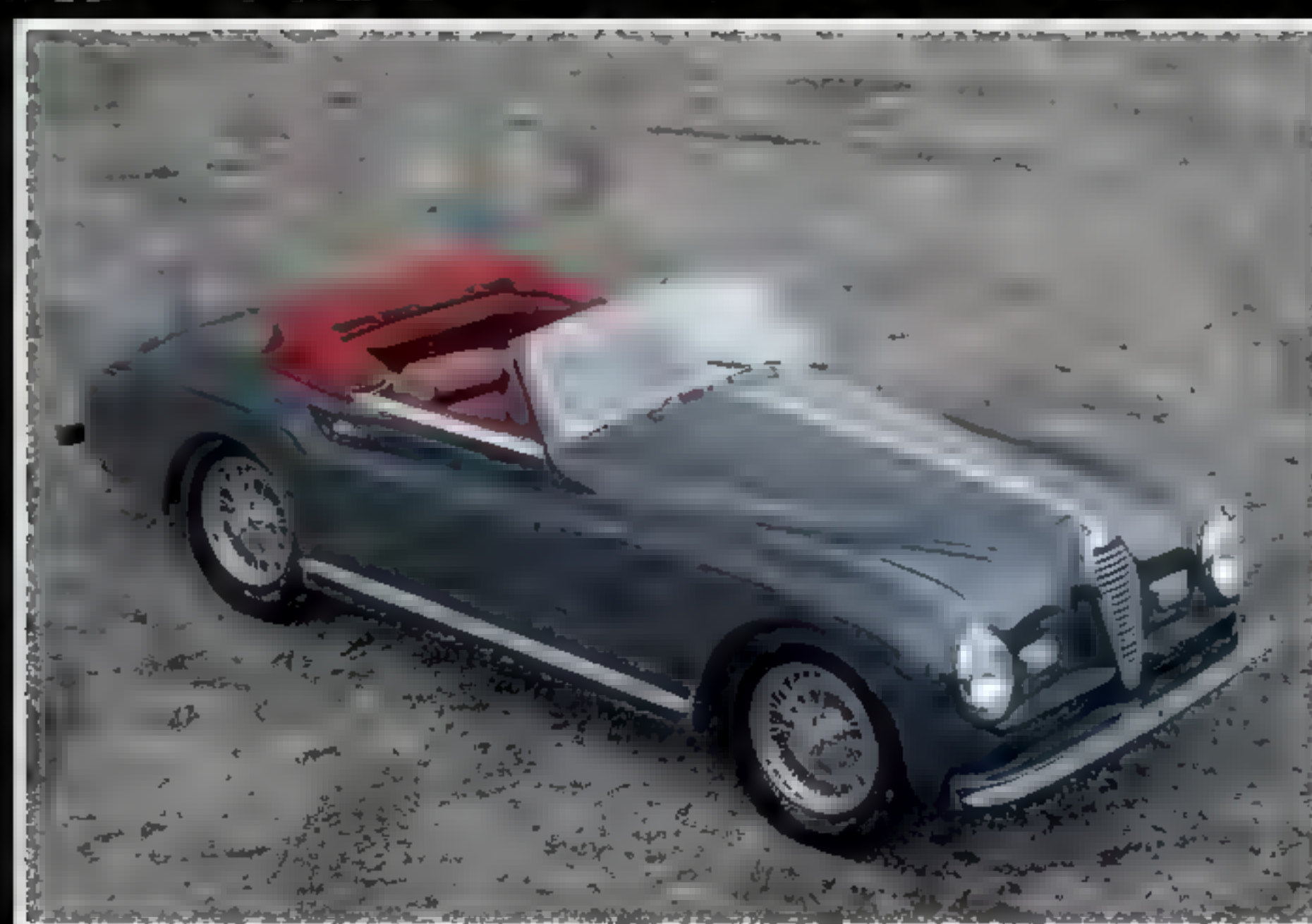
ST oil cooling with 2 oil radiators and inside oil lines. 100 Lt ST fuel tank, 911 reinforced gearbox with cooling and 40% diff. lock. The car is in absolutely top and almost as new condition. The car is Swiss tax paid, comes with Swiss registration and a German „Fahrzeugbrief“. Expired FIA HTP from 2010.

EUR 175'000



1932 Mercedes-Benz 370 S Mannheim Roadster

The History of the car can be traced back to its origin when sold to its first owner Mr. Stetter of Augsburg/GER before being sold to Mr. Lehmann of Friedberg/GER in the mid 50's and who kept it until 2004. The next and 3rd owner had the car completely restored to its original colour. The car is matching number and comes with a Mercedes-Benz Classic Manufacturer's Expertise. Swiss Veteran registered and FIVA Card category A/3 POA.



1948 Alfa Romeo 6C 2500 SS Cabriolet

This car chassis #915566 is one of the rare first series Super Sport, 2-seater cabriolet build with an Aluminium body by Carozzeria Pinin Farina - fully documented and beautifully restored in the Netherlands with completion in 2013 (all invoices and pictures available). This beautiful 6C 2500, which is the most desirable short-wheelbase model with the most powerful engine, known as the SS, or Super Sport. POA.



2021 Ferrari F8 Spider

£225,000



2018 Ferrari 812 Superfast

£225,000



2009 Ferrari 430 Scuderia 16M
Spider LHD

£145,000



2018 Alpine A110 Première Edition

£59,950



2015 Porsche 991 Turbo Coupe PDK

£55,000



1975 Ferrari 365 GT4 BB

£35,000



2010 Lamborghini Gallardo
LP570-4 Superleggera

£95,000



2006 Ferrari Superamerica

£275,000



2005 Ferrari 360 Challenge
Stradale UK RHD

£225,000



2020 Porsche Taycan 4S
Performance

£109,950



1995 GTD GT40

£463,750



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With Italian styling and a Corvette V8, the Rivolta was a near-perfect mix of good looks and power



International express

Positioned somewhere between Jaguar and Ferrari, the drop-dead gorgeous Iso Rivolta was a touch of class – and as **Simon de Burton** reveals, this particular example is a true original

RENZO RIVOLTA'S INDUSTRIAL forebears made a fortune post-war out of products that included bubble cars, scooters and refrigerators. But the man himself simply left a legacy of some darned cool cars, not least the Rivolta that he was inspired to develop for purely selfish reasons: he wanted something quick and comfortable that was more luxurious than a Jaguar and less expensive than a Ferrari – and, since no one else made such a thing, he decided to do the job himself.

Rivolta turned to a young Giorgetto Giugiaro to pen the body, Carrozzeria Bertone to build it and Chevrolet to provide the momentum in the form of a 327ci V8 that pushed out 300bhp, with some typically fancy materials for the interior. The result: a genuine gentleman's express that could get you from breakfast in London to lunch in Paris and on to a late dinner in Rome without breaking sweat or breaking down.

Although the later Grifo is better known, better looking and considered more desirable, the Rivolta has the distinction of being Iso's first supercar – and this GT300 version due to cross the block at French auction house Ivoire is the actual example that was displayed on the Iso stand at the 1965 Turin show. Since then it has had four owners and is described by Ivoire as 'a time capsule' which is original inside and out, down to the unique dashboard-mounted altimeter it was fitted with from new and, of course, the 300kph/180mph speedometer



that hinted at the car's performance. On a good day, a Rivolta could touch 150mph – and all without being too terrifying thanks to the fact that Giotto Bizzarrini had designed the race-worthy chassis.

Beautifully patinated and accompanied by a file containing invoices for maintenance work costing £12,000, the car is believed to be one of fewer than 400 survivors from the 797 built and would certainly be a good buy at the suggested starting price of £34,500.

It's likely to fetch a lot more. Even examples requiring extensive restoration have achieved bigger bids, and last September a Rivolta from the collection of André Trigano was hammered down by Artcurial for almost £75,000 – despite having been driven into a canal in its early days by a jockey returning home from a night out.

1965 ISO RIVOLTA GT300

For sale with auctioneer Ivoire, Troyes, France, September 4. Estimate: £34,500 and up



The Wisdom of a replica C

Simon de Burton rounds up the month's notable sales, including a faithful Jag copy

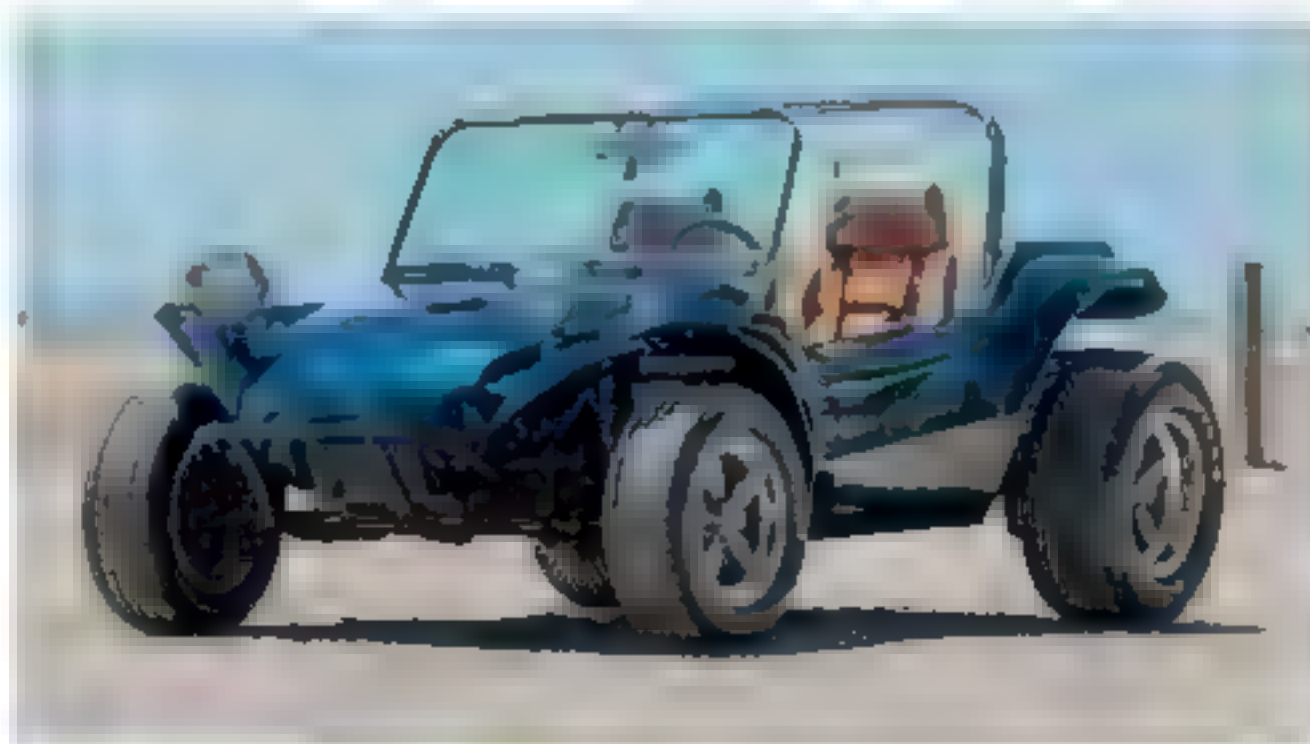
SOLD BY H&H, £67,500

It may be 'just' a replica, but the new owner of this Realm C-type certainly shouldn't be embarrassed by that. The kits supplied by Realm Engineering are of excellent quality, but it was the attention to detail which made this one so special. Created in homage to endurance racer Tommy Wisdom's works-supported C-type, it featured a 4.2-litre engine with triple Weber carburettors to give an output of almost 250bhp. Completed in 2014, it had covered just 4,500 miles and remained virtually 'as new'. Had the body been made from aluminium rather than GRP it might have made double the money.



SOLD BY BONHAMS, £967,000

This F1 car wasn't quite what it seemed. It was sent for scrap from the Maranello factory but ended up being sold as a collection of parts to an enthusiast. After years of inactivity, it has huge potential.



SOLD BY RM SOTHEBY'S, £18,300

Imitation may be the sincerest form of flattery, but it put Bruce Meyers out of business when everyone began copying his legendary Manx beach buggy. One of the more blatant was this, the Irwin Manx.



SOLD BY BONHAMS, £9,300

Some go to great lengths to create unique vehicles, as this elongated bike shows. No one knows who thought it was a good idea to improve performance by adding an extra engine. The idea didn't catch on.



SOLD BY BONHAMS, £870,833

This spectacular racer was owned from new by Juan Augusto Malcolm, an Argentinian with Scottish roots. He was an accomplished racer but also prone to highly exaggerating his talents.



SOLD BY H&H, £3,938

The next time someone tells you there are no more bargains to be had, point them towards this solid Saab 96 in factory finish *Opalgrun*. Ripe for conversion into a long-distance rally car, it was ready to go and, with its Ford V4 engine, easy to fix.



SOLD BY BONHAMS, £20,700

We all know how projects can get left on the shelf. That was certainly the case with this four-cylinder Silver Hawk that the vendor bought 36 years ago. Even so, it must have proved a good investment.

FORTHCOMING SALE HIGHLIGHTS

RM SOTHEBY'S, AUBURN, INDIANA, SEPTEMBER 2-5

In addition to the vast array of cars and automobilia from the estate of late Ford salesman Glen Hague, this auction will now include three further, single-owner car collections including lots from the Cayman Motor Museum, one of which is a 1905 Cadillac Model F in virtually 'as new' condition.

H&H, IMPERIAL WAR MUSEUM, DUXFORD, SEPTEMBER 8

This sale includes a 1973 De Tomaso Pantera that was tuned to the max during the 32 years it belonged to a previous owner. The vendor bought it in 2012 after it had been left in storage, got it running and found it to be un-drivable on public roads due to its power. Now 'softened', this rarity could fetch up to £70,000.

MECUM, DALLAS, SEPTEMBER 8-11

A regular Mecum car auction is bigger than most – so this Texas effort was only ever going to be huge. The catalogue runs to more than 1000 cars, among which is a remarkable one-owner 1969 Ford Mustang Mach 1 with 24,000 miles on the clock – and paperwork right down to the original HP agreement.

BONHAMS, GOODWOOD, SEPTEMBER 18

Having pulled-off the Festival of Speed in tricky circumstances, Goodwood's competition crew will be back to organise the Revival – at which Bonhams will stage its usual sale. A full inventory is yet to be consigned, but anyone looking for a Lagonda 2-litre tourer is in luck. There are four 1929 examples.



**1976 FIAT 131 ABARTH RALLY STRADALE
SOLD BY RM SOTHEBY'S, £135,840**

A trip to the shops might never be the same again for the buyer of this Fiat 131, which was one of 400 homologation models built to enable the marque's assault on the FIA Group 4 Rally Championship.



Die another day

Which motor-racing game did you have in your home – Formula 1, Brooklands or even Monaco? Chairman of the board **Gordon Cruickshank** recalls the best

MOTOR RACING AS A BOARD GAME? Can pushing a few counters around a printed track get anywhere near the excitement and noise of the sport? Perhaps not – but then plonking a tiny top hat on a blue square is not the same thing as being a Mayfair landlord. It's imagination that makes it work.

Over the years there have been many attempts to capture the screech of tyres in more or less two-dimensional form and there are collectors out there hoping some faded, tattered box at a car boot sale will reveal an undamaged gaming gem. The truly lucky might find *The Gordon Bennett Motor Race* game from the early 1900s, with Edwardian racers pounding down a dusty road on the lid; slightly more common is the 1920s *Brooklands* game where landing on certain squares gives you a flat tyre or an oil leak.

Collector Richard Jones goes into the subject on oldclassicar.co.uk, listing many. From the 1930s there's *Grand Prix Motor Race*, featuring an oval track and four streamlined

lead cars, and *Auto-Go*, another example with lovely artwork of country lanes and racing cars, while *Motor Racing* hits the 1950s with a fold-out board for its plastic cars. Gameplay usually means throwing dice, moving spaces and getting knockbacks – snakes and ladders with different pictures. For a racing enthusiast, it's that nostalgic box that appeals.

One inventive variation was *Diversion* from 1957, a route maze with spinning turntables to send opponents off in the wrong direction. Or for more interaction, go magnetic. Several games offered a steering wheel guiding a tiny car round a track, such as the *Duncan Hamilton Oulton Park* game, with a plan of the circuit tackled by a plastic D-type and a mugshot of the famous driver on the box top.

Chris McClure retails many old games on vintage-playtime.com and has choices you've never heard of. "Older games tend to be 'roll and move'; they have a lovely traditional

element but in terms of playability and excitement they aren't the best. But in 1961 came Waddington's *Formula 1* which is a fantastic game and brought a new mechanism into the arena. You choose how many spaces you want to move and how fast you want to go, but if you're too fast in a corner you spin off or get some other penalty. Much more skill."

This was a big seller and is easy to find, unlike another prize on his website – *Monaco*.

"This is more complex," says Chris, "with gear choices and two cars per player so tactics count, too. It's very rare to find a complete set of this."

For collectors both condition and completeness matter. Chris says it's easy to replace a missing car for *Formula 1*, but "the more complex a game, like *Monaco*, the

more pieces and the more likely one is missing. *Monaco* has 12 cars and 96 cards! But the box is the most valuable element: collectors want the game to be playable but also look nice."

"The more pieces, the more likely one is missing"



DIVERSION, SPEAR'S GAMES

Calling for a different sort of strategy, *Diversion*, from 1957, is as much about frustrating your opponents as hitting the finish line. Spin the turntables to shunt them up a cul-de-sac while clearing your own route to the finish. This is a childhood favourite of one member of the *Motor Sport* editorial team! It is currently on Ebay, has some scuffing on the box but includes all six little wooden cars. Rules are printed inside the box lid. **ON SALE:** Ebay, £19.99



FORMULA 1, WADDINGTON'S

Possibly the most successful racing game, Waddington's *Formula 1* from 1961 changed the play mechanism to require skill and strategy, relegating dice throwing to imposing problems. A big hit with another of the editorial team, and on sale for many years so not so hard to find. As always box condition counts, though replacement pieces can be found. This nice example dates from 1962 and contains all its original elements. **ON SALE:** vintage-playtime.com, £79.95



MONACO GRAND PRIX, TRI-ANG GAMES

The most complex variant of 'on-board racing', *Monaco* from 1968 compels players to select gears before each corner while dealing with problems and managing two cars at once so there's plenty of room for strategically deploying one car to give the other an advantage. This set is complete with all 12 car pieces and 96 game cards in a good box. Hard to find, hence its price. **ON SALE:** vintage-playtime.com, £199.95



HUGGIN' THE RAIL, SELCHOW & RIGHTER; ON TRACK WITH 500hp

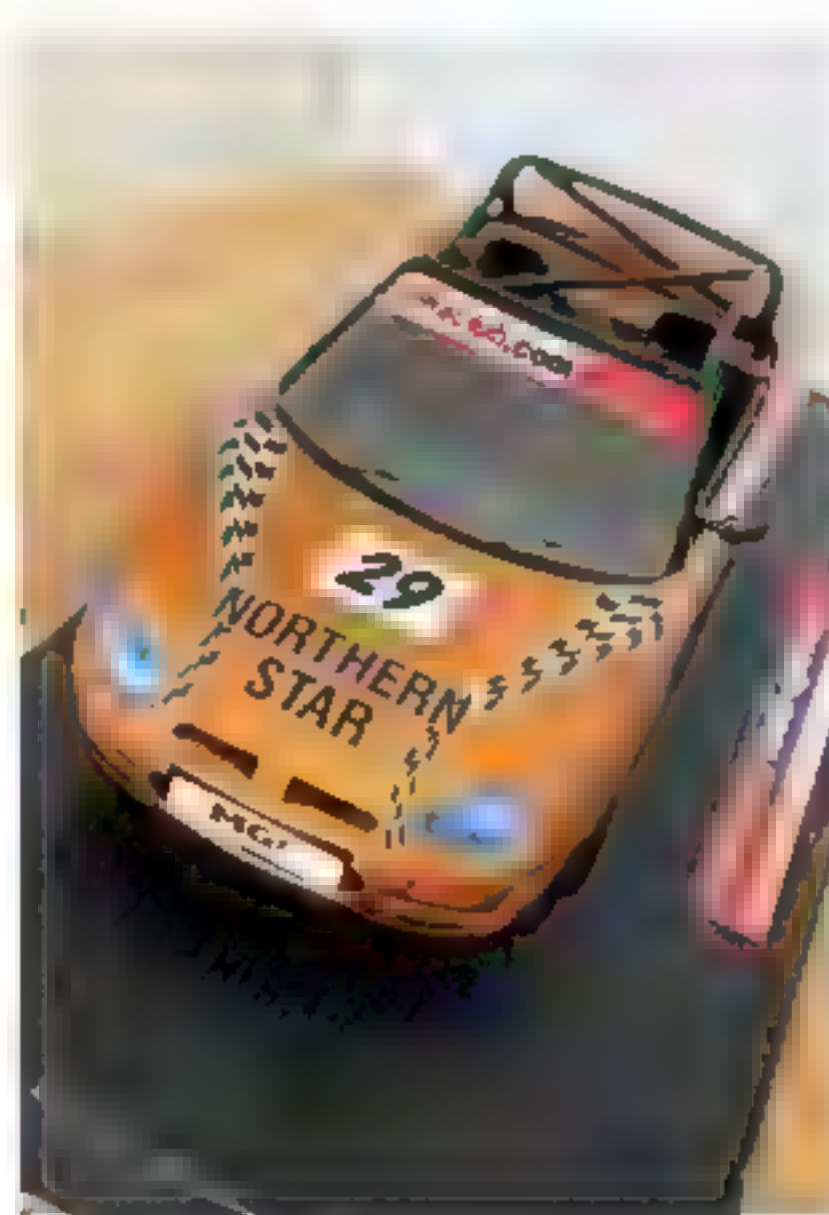
A pair of board games auctioned by Barrett-Jackson in the US a few years ago comprising the very American-sounding *Huggin' the Rail*, a roll-and-move game but with the added twist of lane changes so you can make for the shorter inner line. Also included was *On Track with 500hp*, a German board game. Both were from the 1930s and in excellent condition. **SOLD:** Barrett-Jackson, £206

MY PRIZED POSSESSION

MGF CUP CAR MODEL

PAUL O'NEILL, TOURING CAR STAR-TURNED-GOGGLEBOX SENSATION

"I've chosen a model of my MGF Cup car from my second year of racing, which is where everything turned around for me. My first year was truly awful, but when I moved to Tech-Speed things changed. My sister [singer/songwriter Melanie C, formerly of the Spice Girls] sponsored the car with her *Northern Star* album and it was in that season it became a reality that I might be able to do something good in this sport. It was bought for me as a gift by Marvin and Sandra Humphries of Tech-Speed; all my BTCC success came with them, so it's a special memento, and it reminds me of the important part my sister played in my career."



THE EXPERT VIEW



The generation game

HOW DO YOU COMPARE DRIVERS OF different eras? Is it even possible? There are so many different variables that separate the birth of racing itself, Formula 1, and the sport we have now. And the same can be said for the collectibles coming from those eras.

We see three distinct spans here: 'vintage' (pre-WW2), 'classic' (the birth of F1 in the 1950s through to the 1990s) and then the 'modern' era. Each era is interesting. Take vintage collectibles: Any original items from the time of Tazio Nuvolari, Rudolf Caracciola and such are incredibly rare. This is a period where there were only a handful of events, drivers owned their own kit (and sometimes their cars too) and merchandise wasn't invented. That sounds like a recipe for big-ticket museum-piece items, but actually the hunger for this period has diminished, now it's a specialist collectors' market or museums mainly.

The classic - in living memory - period is more accessible. Collectibles from F1's early years can be rare and expensive, but from the 1970s we start to see merchandise arriving along with big sponsors and drivers like Niki Lauda, Gilles Villeneuve and James Hunt. Items from that period are very collectible; and many can be a good investment. Collectors are the TV generation that now have the income to own a piece of the past from their boyhood heroes.

The modern era collectible market is harder to predict. The market is very strong for drivers like Michael Schumacher and Mika Häkkinen. Currently, team merchandise is so prolific, and we live in a far more disposable age. Who knows if the current drivers will be revered in 20 years' time in the same way Michael Schumacher or Ayrton Senna are now?

Andrew Francis is director at The Signature Store. thesignaturestore.co.uk



THE SHOWROOM

Motor Sport collection



Editor's choice

Treat yourself to a Spa break

Whether hunting for gifts or buying for yourself, you'll find a miscellany of track-friendly ideas at motorsportmagazine.com/shop

LUXURY EUROPEAN TRACKDAYS

If you grew sick of sitting at home a long time ago, there's good news on the horizon as things are finally opening up. The government rules (for at least the next five minutes, or so...) suggest that travel to many European countries is now back on the table, and if you're double-jabbed then things are likely to become a whole lot easier.

It's a good time to dust off your trackday toy, then, chuck a bag in the boot and head off to some of Europe's finest driving destinations. Our friends at RSR – the leading trackday operator at both Spa-Francorchamps and the Nürburgring – have kindly offered us a few spaces on some of their super-popular day events across the year. So take your pick from the stunning natural roller-coaster

that is Spa, the tight and flowing ex-French Grand Prix venue Dijon-Prenois, or sun yourself by the sea during the lunchbreak at the beautiful Portimão track in Portugal's Algarve.

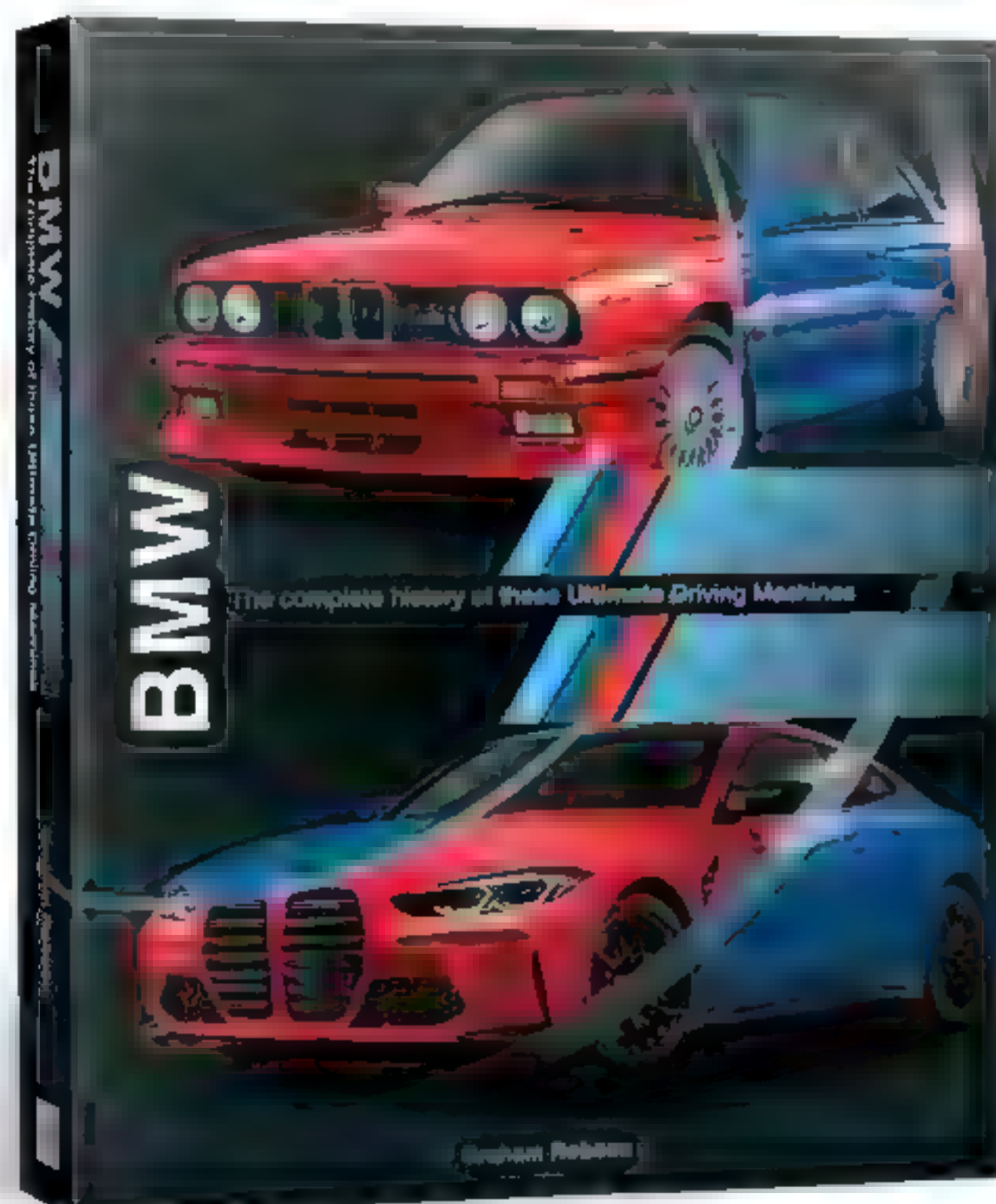
Prices vary, but we suggest you book quickly as trackday places don't tend to hang around for long, especially with all that pent-up demand.

From £649

BMW M BOOK

Elsewhere in this issue you'll find a feature on the BMW M1 and why it is the ultimate M Sport car, even if it wasn't the most commercially successful. So what was the most commercially successful? The M3, of course. Since it was unveiled in 1986 the M3 has set new standards in the sporting saloon category. Its sister coupé variant, the M4, came in 2014, but has done a similar thing, carving itself a fine reputation up against the best from Mercedes, Audi et al.

This book charts the history of both, including racing cars. It's a fine addition to any fan's bookshelf and features heaps of technical data and lashings of photos... We may not stare at the bucktoothed newer models too much. £40



JACKIE STEWART 1:2-SCALE HELMET

Of all the historic Formula 1 world champions, Sir Jackie Stewart is perhaps the most understated when it comes to collectibles. A replica anything of Stewart is a rarer sight than Clark, Moss and Senna-themed reproductions. That's part of the appeal of this intricately detailed 1:2-scale Stewart crash helmet. Manufactured by Bell and featuring the Scot's trademark tartan banner and Elf logo, it's one of the all-time elegant helmet designs, and it's important, too. Let's not forget that three-time champion Stewart campaigned for safety improvements and was the first to adopt the full-face helmet. Even better, all proceeds go directly to Race Against Dementia, the charity Stewart founded to conduct vital research into the debilitating condition. £250



CUNNINGHAM E-TYPES PRINT

This should be titled *The Birth of a Legend*, as that's what it depicts. Set on taking the fight to Ferrari at Le Mans, Jaguar created its E-type Lightweight, easily the fastest and finest of the E-breed. This fine art print depicts the three entries run by Briggs Cunningham and overseen by Lofty England at Le Mans in 1963. Sadly, the Lightweights never enjoyed the success they deserved, with Cunningham/Bob Grossman's (15) being the sole car to finish. This limited-edition A2 giclée print comes numbered and signed by the artist. £135

TYRRELL T-SHIRT

Retro racing T-shirts are cool. Fact! Following hot on the heels of heritage sponsor threads and a revived Hesketh collection comes this fine, officially licensed offering from Tyrrell, celebrating its twin 1971 Formula 1 World Championship success in both the drivers' and constructors' standings. It's 100% cotton and guaranteed to go down a storm at the summer barbecues. £18.50



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FITTIPALDI-SIGNED MODELS

When you look back to Emerson Fittipaldi's days behind the wheel, which car first springs to mind?

There were the heroics aboard the beautiful JPS Lotus 72E, *left*, the glorious red and gold of the Lotus 72D, and the wonderful roar of the Cosworth DFV-powered McLaren M23. Regardless of which is your favourite, our friends at The Signature Store have managed to get a limited run of all three signed by the man himself.

Each 1:32-scale model is intricately recreated and mounted on a display base. One is great, but all three would make a fine collection. £69.95 each



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In 1990 Olaf Manthey took the wheel of a Porsche 911 to the 24 Hours of Le Mans, finishing 11th. The car was later sold to a private collector.

Up for the Cup

In 1990 single-make championships were thin on the ground; then along came Porsche's 964. **Robert Ladbroke** tells its story.

THERE'S SOMETHING BEAUTIFULLY simplistic about older-model 911s. Sure, they're technically advanced, with their convention-defying rear-mounted engines and trick electrics, but that rather basic, no-frills silhouette has been known and loved for more than six decades now.

Porsche has always marketed the 911 as a turnkey performance car, as comfortable on the track as the daily commute, and perhaps no model proved that better than the 964, which turned Porsche from just another racing manufacturer into the place to hone your craft if you were an aspiring sports car racer with healthy pockets.

Single-make homogenised championships are very much the order of today, but in the 1980s they were far rarer. Everything from Formula Ford to F1 was multi-chassis and top-line sports car racing was largely

the preserve of big brands duking it out, with Porsche being the biggest of them all.

The 956/962 simply carried on what the 917 had started, and Porsche was sweeping the board at the top level. But beneath that band there was a chasm for the brand to capitalise on the interest its big hitters were generating.

The Carrera Cup as we know it now started life as the 944 Turbo Cup in Germany in 1986, featuring lightly modified cars running within the same performance window. A French version was launched in 1987 and Porsche realised it was on to something with global appeal. It just needed an upgrade from the 944.

The 964 generation 911 was the answer. Porsche took 50 production 964s, stripped them down to save weight, fitted the necessary safety equipment, a limited-slip differential and lightly breathed on the 3.6-litre naturally aspirated flat-six to produce 265bhp, and the

PORSCHE 964 CARRERA CUP

- **Price new** N/A
- **Price now** £100,000-£300,000
- **Engine** 3.6-litre naturally aspirated, air-cooled flat six
- **Rivals** TVR Tuscan Challenge, Ferrari 348 Challenge
- **Verdict** A simple car that was arguably the godfather of single-make racing.



ONE FOR SALE

A prime example in stunning Summer Yellow, with just over 16,000 miles on the clock. £209,995. theoctanecollection.com

Carrera Cup was born. The concept spread, with Porsche updating the French series the next year, and then launching a global Supercup contest to run alongside Formula 1 shortly after. The groundwork was being laid fast for what would become a global phenomenon.

Porsche even attempted to crack America when it shipped 45 RS-spec cars in road trim to its US importer Andial to convert to race spec in 1992. That concept didn't get off the ground due to a lack of sponsorship and support, but those cars still exist with super-rare 'Carrera Cup US Edition' limited-edition badging.

In total, Porsche created 297 of the 964 Carrera Cup cars between 1990-1993 before it was succeeded by the 993.

Now, you'll find Carrera Cup series in 13 countries worldwide, plus the top-tier of the Supercup. Star names like René Metge, Olaf Manthey, Jörg Bergmeister, Patrick Pilet, Richard Westbrook, Nick Tandy and Kevin Estre all came through Porsche's motor sport pyramid, which was built around this humble 911. Today, if you can find one, they're real collectors' items. ●



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1993 **PORSCHE 964 CARRERA RSR 3.8**



1967 **LAMBORGHINI 400 GT 2+2**



1963 **ASTON MARTIN DB 4 SERIE V
VANTAGE CONVERTIBLE**



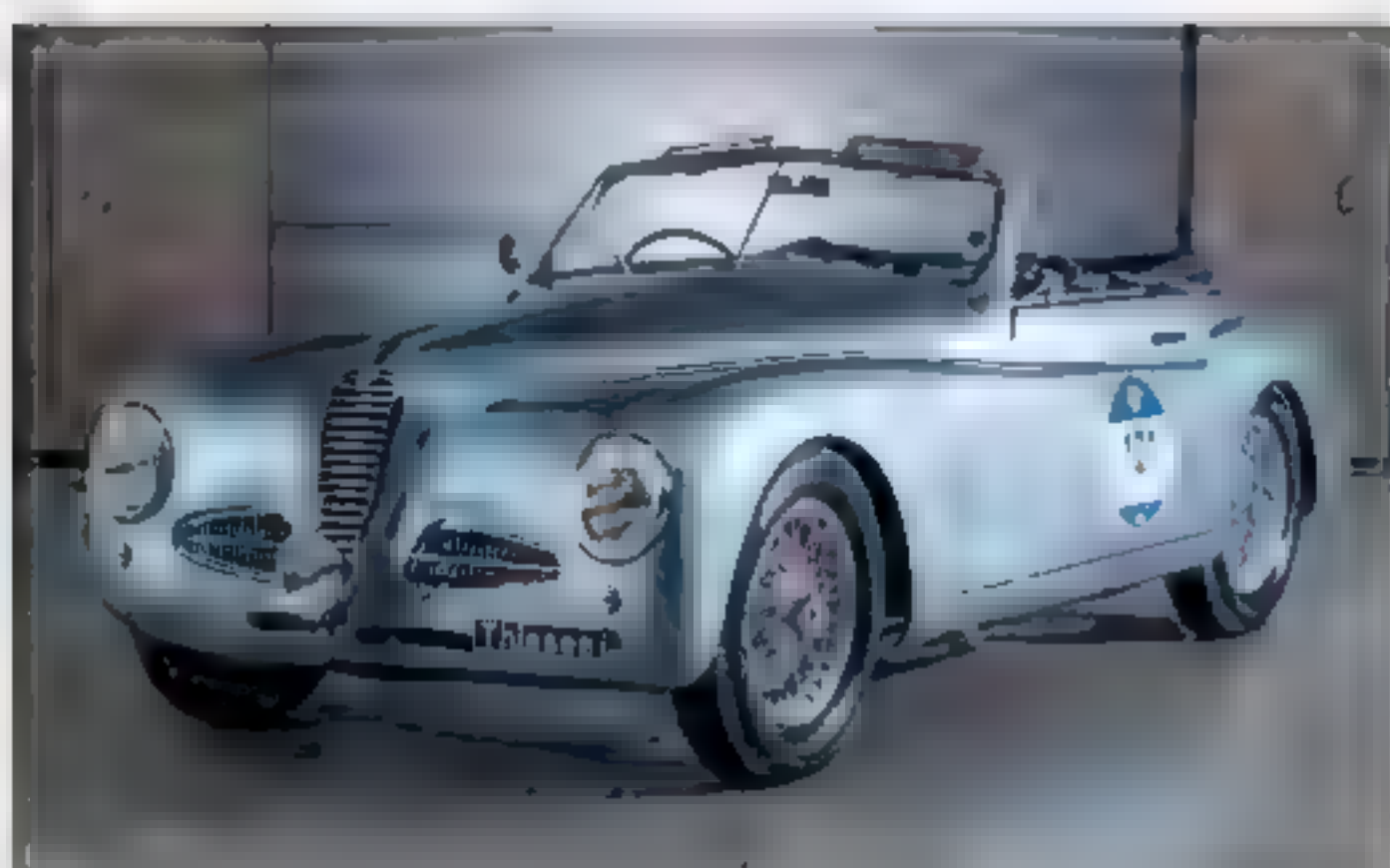
1954 **ALFA ROMEO 1900 C
SUPER SPRINT TOURING**



1957 **BMW 507 SERIE I ROADSTER**



1937 **BMW 328 SPORTROADSTER**



1947 **ALFA ROMEO 6C 2500 SS
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Fewer than 500 road and race M1s were built, but its styling is still referenced by BMW today, most recently through the M Next concept



BUYING GUIDE

BMW M1

- **Price new** £37,500 (£220,000 today)
- **Price now** £450,000-900,000
- **Engine** 3.5-litre straight six twin-cam
- **Rivals** Porsche 935, Ferrari 512 BB, Lancia Beta Montecarlo
- **Verdict** It wasn't the first M car, nor was it the most successful, but it was certainly the most influential.

The best of the best?

Looks, performance, rarity, even its own racing series... is this the ultimate BMW M car? **Robert Ladbrook** considers the argument

THE CASE OF THE BMW M1 IS AN interesting one. Technically it was a fleeting diversion from the norm, birthed out of the desire to beat Porsche at its own game, built in small numbers and only active for a few years. It's flash-in-the-pan stuff. But what a few years they were. It was nowhere near the commercial success the M3 was/still is, and not as successful on track as the 3.0 CSL (the first M car), yet the M1 arguably left a bigger impression on the company as a whole than any other model.

The story began in the mid-1970s when BMW Motorsport director Jochen Neerpasch spotted an opportunity. At the time, Porsche was cleaning up in sports car racing with its 935, both in the hands of the factory and with customer teams. It was stealing headlines, earning serious prize money and selling like hot cakes. BMW wanted a piece of that, so Neerpasch convinced the Munich board to stump up the budget to develop

a new, mid-engined sports car capable of taking on the 935. But there was an issue - how to design, engineer and build the 400 road-going examples needed to homologate such as car for Group 5 racing.

BMW needed help, and found it at Lamborghini. A deal was struck for the Bologna firm to assemble the new car, named the Motorsport 1, before handing it back to BMW to finalise the drivetrain. Giampaolo Dallara designed the steel spaceframe chassis, while Giorgetto Giugiaro penned the fibreglass body.

Meanwhile, BMW M set about creating a 3.5-litre six-cylinder engine capable of 273bhp.

All was going well, aside from Lamborghini's accounts. With suppliers not being paid and staff on strike, of the 400 cars planned, Lamborghini managed to deliver six before BMW had to intervene and switch production elsewhere.

The M1 was shown to the public at the Paris Auto Show in 1978, where it received rave

reviews, but still had almost no purpose. BMW couldn't homologate it to race and couldn't produce enough to sell. Fair to say the board was unimpressed on its return on investment.

Neerpasch needed a plan, so got together with Max Mosley and Bernie Ecclestone, who were keen for F1 weekends to feature some extra content, and it just so happened that BMW had a handful of race-bred cars hanging around.

The M1 Procar series was launched in 1979 and ran for two seasons, featuring star drivers and teams all going hell-for-leather aboard identical M1s. Niki Lauda took the first title, and Nelson Piquet the second. That series alone transformed the M1 from zero to hero before it was scrapped after just two years. M1s were later modified for Le Mans (1981-86) and even Group B rallying before disappearing. A total of 453 were built from 1978-1981, with 399 road-going cars, 53 racing units and a prototype.

Some three decades later, the design of the M1 sparked the concept for BMW's other mid-engined sports car, the petrol-electric i8, and as recently as 2019 another M Next concept also drew of the M1's lines. A flash in the pan it may have been, but the M1's legend lives on. **O**



ONE FOR SALE

1980 BMW M1

A stunning original example with just over 2300 miles on the clock.

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DUNCAN HAMILTON ROFGO



1957 PORSCHE 356 A SPEEDSTER

One of just 1111 Speedsters produced in 1957, this early 356 A example was originally delivered to the USA in Aquamarine Blue (the colour it currently wears), and came complete with all the refinements of the final A model made between 1957 and 1959. One of the prettiest cars to ever leave the Porsche factory, this beautifully restored Speedster is supplied with two engines – the original matching item and a freshly rebuilt unit – and is ready to be enjoyed immediately in the summer sun!



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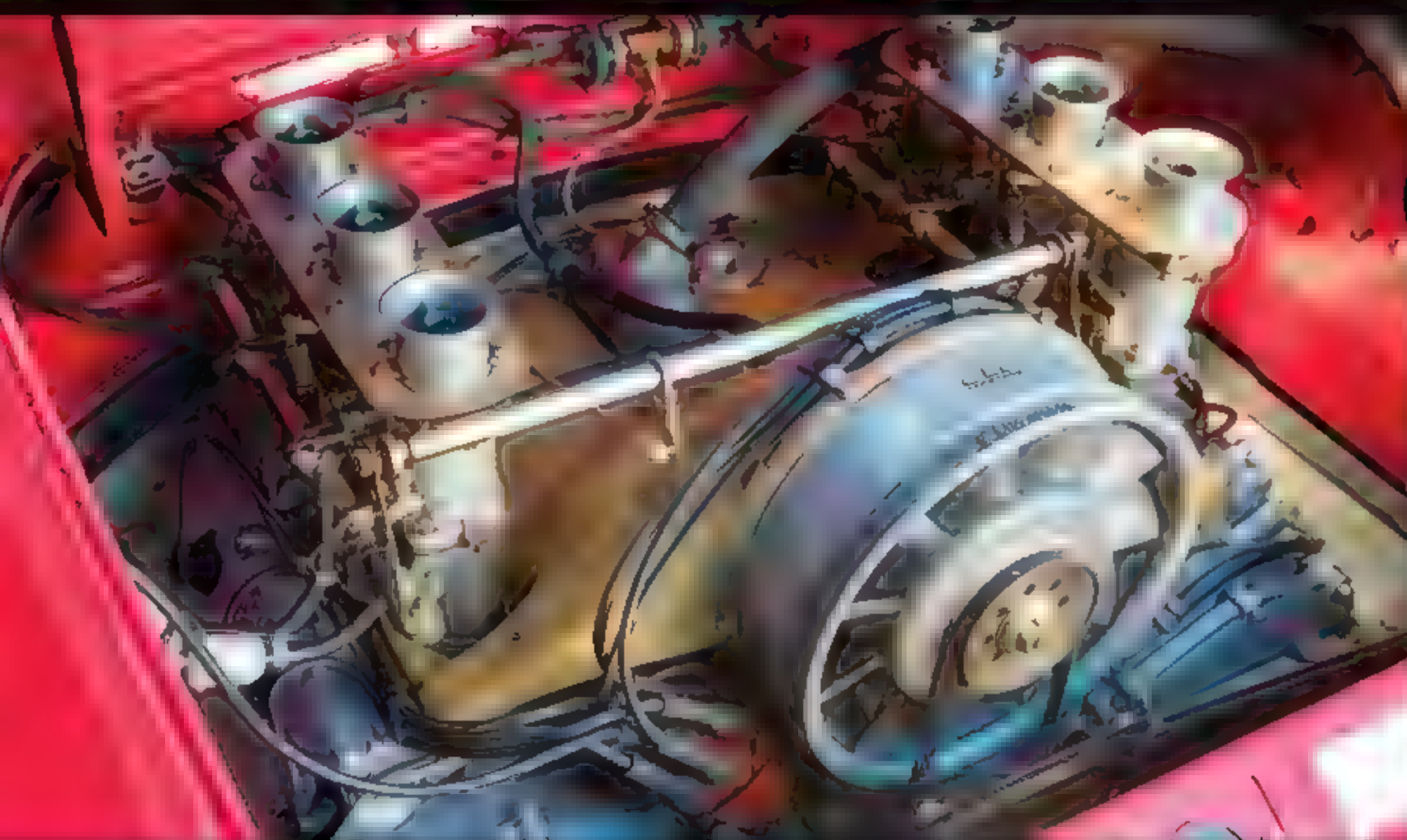


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1965 PORSCHE 911 SWB - THE 'SPA LAP RECORD CAR'

This is a rare and highly sought after 1965 Porsche 911 SWB race car, known as the 'SPA LAP RECORD CAR'. It is a two-seater, open-cockpit, race car, built by the famous racing team, the 'Porsche 911 SWB Race Team'. The car is painted in a striking red color, with the number 107 on the side. It is a true racing machine, with a powerful engine and a high-performance chassis. The car is currently for sale at a special price, and it is a rare opportunity to own a piece of Porsche racing history. Please contact us for more information.



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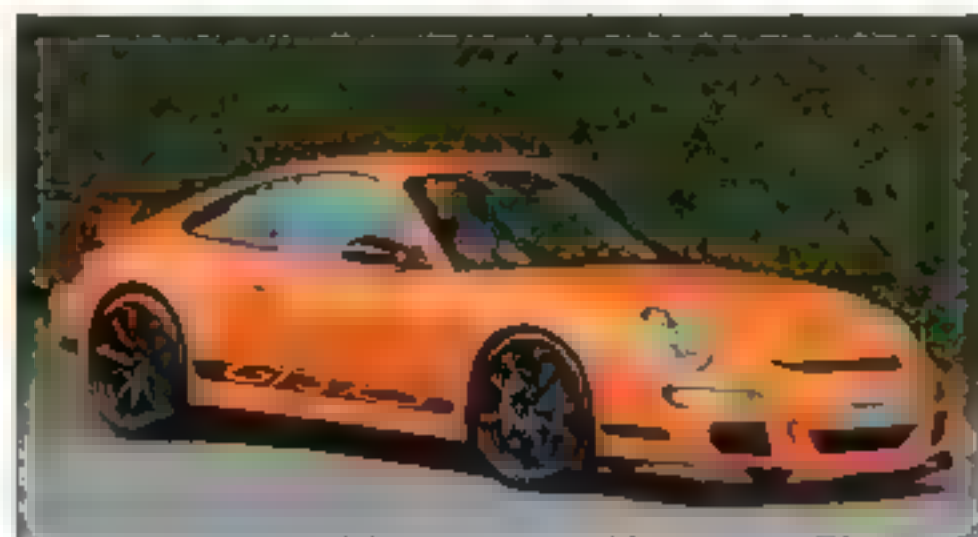


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911 GT3RS (1997)

Orange • Black Nomex Bucket Seats
Porsche Ceramic Composite Brakes
Sport Chrono • 19" Black GT3 Wheels
Rear Roll Cage • Schroth Harnesses
Porsche Certificate of Authenticity
21,947 miles • 2007 (56)

£149,995



911 GT3RS (1996)

Carrara White • Black Nomex Bucket
Seats • Full Roll Cage • Schroth
Harnesses • Red Wheels & Decals
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911 Turbo (1993)

Arctic Silver • Black Leather Sports
Seats • 18" Turbo Wheels • Electric
Sunroof • Air Conditioning • Factory
Vented Wheel Arches • Cargraphic
Sports Exhaust • 49,402 miles
1997 (P)

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911 2.2 E

Silver Metallic • Black Leatherette
Seats • 14" Fuchs Wheels • Left-Hand
Drive • Tool Kit & Jack • Matching
Numbers • Professionally Restored
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911 Carrera 4 S Targa (1991)

GT Silver • Bordeaux Red Leather
Sports Seats • PDK Gearbox with
Paddles • 20" RS Spyder Design
Wheels • Sport Chrono Switchable
Sports Exhaust • 26,057 miles
2017 (17)

£94,995



911 Carrera 2 S (1991 GEN II)

Basalt Black • Crayon Leather Sports
Seats • PDK Gearbox with Paddles
20" Black Carrera S Wheels
Touchscreen Satellite Navigation
Glass Electric Sunroof • Rear Axle
Steering • 9,218 miles • 2018 (18)

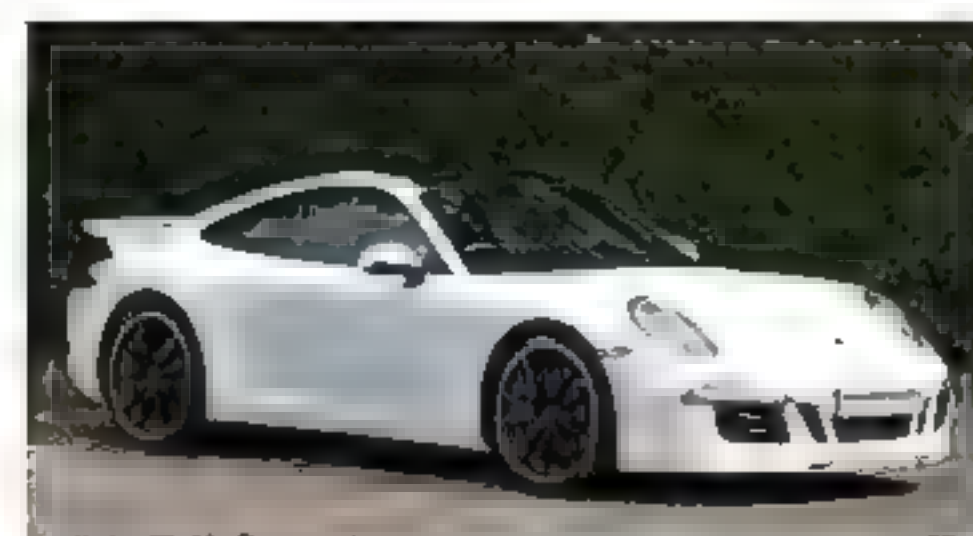
£84,995



911 Turbo S (1997)

Carrara White • Black Leather
Adaptive Sports Seats • PDK Gearbox
with Paddles • Porsche Ceramic
Composite Brakes • 19" Centre
Lock Wheels • Sport Chrono
37,682 miles • 2011 (11)

£79,995



911 Carrera 2 S (1991)

Carrara White • Black Leather
Sports Seats • PDK Gearbox with
Paddles • Factory Aerokit
20" Black Carrera S Wheels
Sport Chrono • Glass Electric
Sunroof • 1,404 miles • 2015 (65)

£79,995



911 Carrera 4 (1993)

Arctic Silver • Classic Grey Leather
Sports Seats • Air Conditioning
17" Cup Wheels • Blue Power Hood
with Tonneau • Previously Sold &
Serviced by Paragon • 1997 (P)

£59,995



911 Carrera 4 (1997 GEN II)

Aqua Blue • Dark Blue Leather Seats
PDK Gearbox • 19" Sport Design
Wheels • Touchscreen Satellite
Navigation • Heated Seats &
Steering Wheel • Rear Parking
Sensors • 51,574 miles • 2010 (10)

£44,995



911 40th Anniversary (1996)

GT Silver • Natural Grey Leather
Seats • Manual Gearbox
18" Carrera Wheels • Satellite
Navigation • Factory X51 Power Kit
No. 1259 of 1,963 Cars Built
45,913 miles • 2004 (04)

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911 Carrera 2 S (1997)

Atlas Grey • Black Leather Adaptive
Sports Seats • Tiptronic Gearbox
19" Carrera Classic Wheels • Satellite
Navigation • Sports Exhaust
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Ferrari 488 Spider – 2017 **£184,995**



Nero Daytona Exterior with Nero Leather Interior, Nero Dashboard and Carpets, Giallo Special stitching, Nero Headlining, 20" Matt Grigio Corsa Rims with Giallo Brake Callipers, Climate Controlled Air Conditioning, Large Goldrake Racing Seats, Rev Counter in Giallo, Horses Stitched on Headrest in Giallo. **6,300 miles**

Ferrari GTC4 Lusso T V8 - 2018 **£159,995**



Argento Nurburgring Metallic with Nero Leather Interior, Nero Leather Dashboard, Nero Carpets, Rosso Special Stitching, Nero Headlining, 20" Forged Dark Painted Rims with Rosso Brake Callipers, Climate Control Air Conditioning, Cruise Control, Panoramic Glass Roof, Electric Heated Seats with Driver Memory. **5,100 miles**

Ferrari 458 Italia – 2011 **£139,995**



Grigio Silverstone Metallic with Nero Roof, Crema Interior, Nero Dashboard, Nero Carpets, Leather Headlining in Crema, Bianco Stitching, 20" Forged Dark Painted Rims with Rosso Brake Callipers, Dual Climate Control, Fully Electric Large Daytona Racing Seats in Crema Leather with Driver Memory. **14,900 miles**

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DB5 1965

Originally Goodwood Green with black Connolly hide trim and non-standard equipment of a heated rear screen and two Marchall fog lamps. This matching numbers car was purchased by a previous owner's father from a Mr Elwell in 1973. The Aston was next owned by his mother and remained in the family's possession for some 40+ years. The fastidious history file contains invoices from 1973 onwards and numerous MOT's. Having recently sold two DB5's with body off restorations for new owners, this car is next in line. The car will be restored to the ultimate RSW specification. A very exciting project for any potential purchaser to come on board at the start and enjoy the journey.



DB4 1961



Stunning DB4 in dark blue with red Connolly hide. Maintenance, service and restoration history from the past 45yrs. RS Williams maintained last 15yrs. Expenditure in excess of £100k including engine upgrade to 4.7ltr in 2010 – under 5,000 miles covered since. Superb in every aspect and ready to be enjoyed.

DB4 Series IV 1962



A magnificent DB4 Series IV benefitting from a complete RS Williams body-off restoration costing in excess of £350,000. Two year restoration from October 2017 completed in October 2019 with only 600 miles covered since. California Sage with Fawn interior. Original SS engine upgrade to 4.7ltr. Superb in every way.

DB5 1965



Fabulous DB5 in original Dubonnet and black Connolly hide (as per build-sheet) with lovely patina. Complete ownership history from new (8 owners). Maintenance, service and restoration history from the past 30yrs. RS Williams maintained last 19yrs. Expenditure in excess of £180k including engine upgrade to 4.2ltr in August 2002 (approx 29,000 miles ago).

DB5 1965



Superb DB5 benefitting from single family ownership for over 40 years. Original Goodwood Green with black Connolly hide. A fastidious history file with over 30 expired MOT's. Undergoing full body off restoration to our ultimate RSW specification. One of the finest DB5's in the world upon completion.

V8 Vantage Volante 1985



Green with Magnolia hide. Factory serviced from new until 1988 then RS Williams maintained since. 2 owners from new. Verified mileage of 31,900. Engine upgraded to 7.0ltr specification. 1 of only 2 pre-production manual Vantage Volantes built before the first official Vantage Volante was released. A very special car and stunning in every aspect.

V8 Vantage 1987



Chichester Blue with Parchment hide piped dark blue. Full history and MOT certificates from new. RS Williams maintained last 20+ years. A beautiful X-Pack with fastidious history. The 30th car produced and 1 of only 84 manual RHD cars.

V8 7.0ltr 1979



A wonderful opportunity to purchase a V8 with several desirable upgrades. 7.0ltr engine upgrade in the late 90's and refreshed in 2011 at 41,454 miles ± current mileage 43,496. 16" wheels, handling kit and Brembo brake conversion. Currently under-going full chassis repair and bare-metal respray – colour choice optional at this stage.

V8 Volante 1979



Midnight Blue with magnolia hide piped blue. Blue mohair hood with grey 'West of England' headlining. Full mechanical rebuild by RS Williams to 7.0ltr automatic specification to include conversion to 4 speed automatic. Work completed in August 2016 and only 1152 miles covered since. Total rebuild in excess of £210,000.

DB7 Zagato 2004

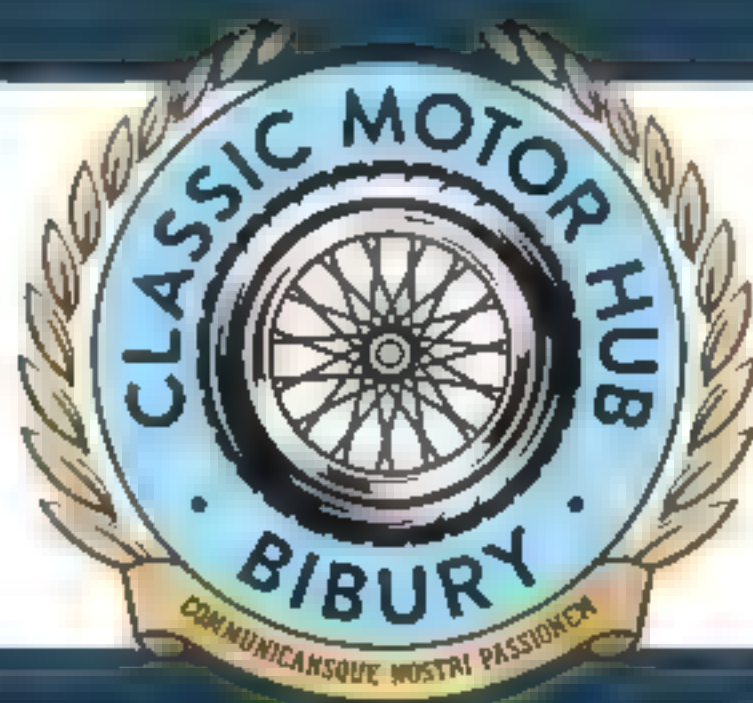


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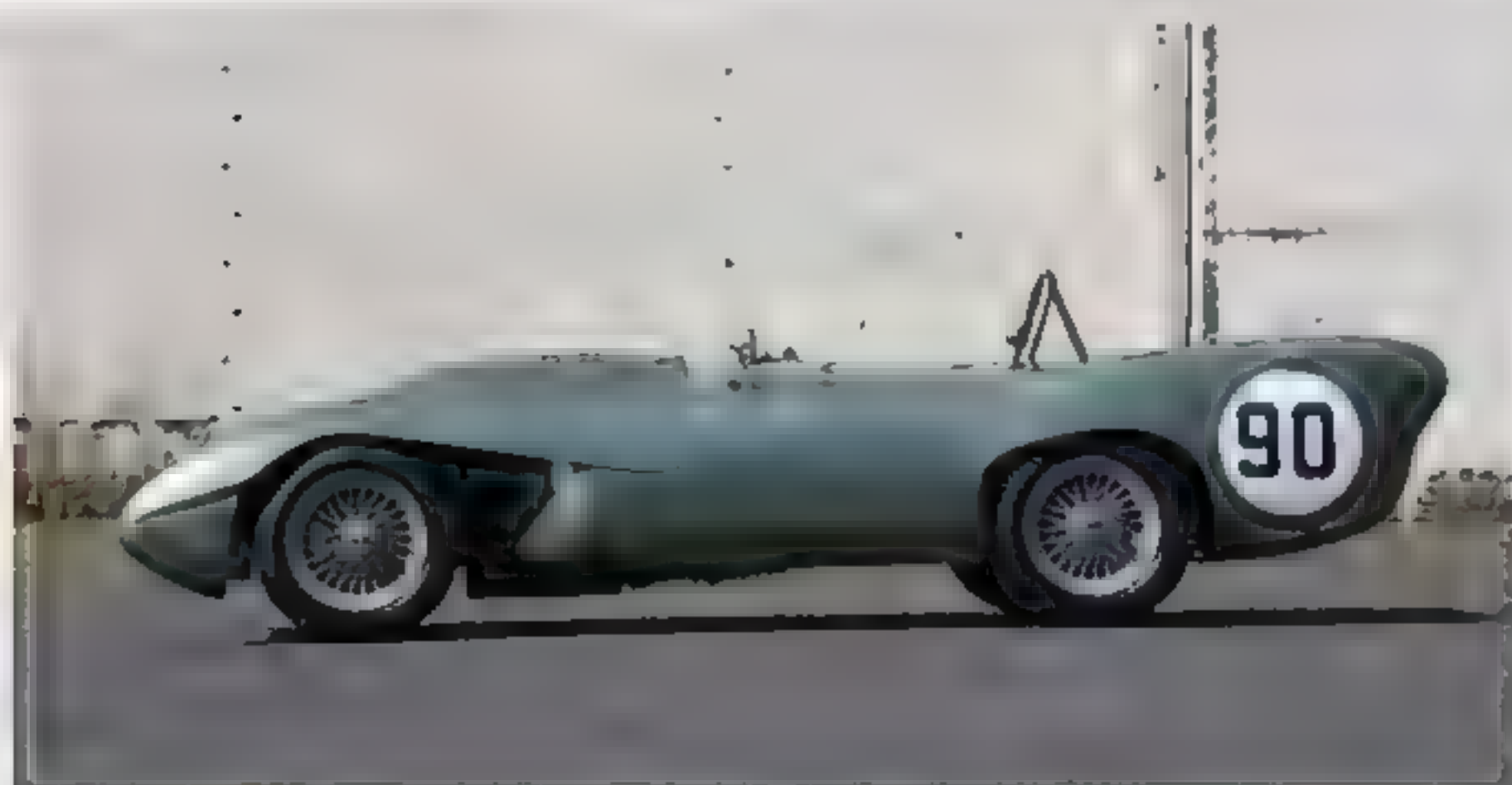
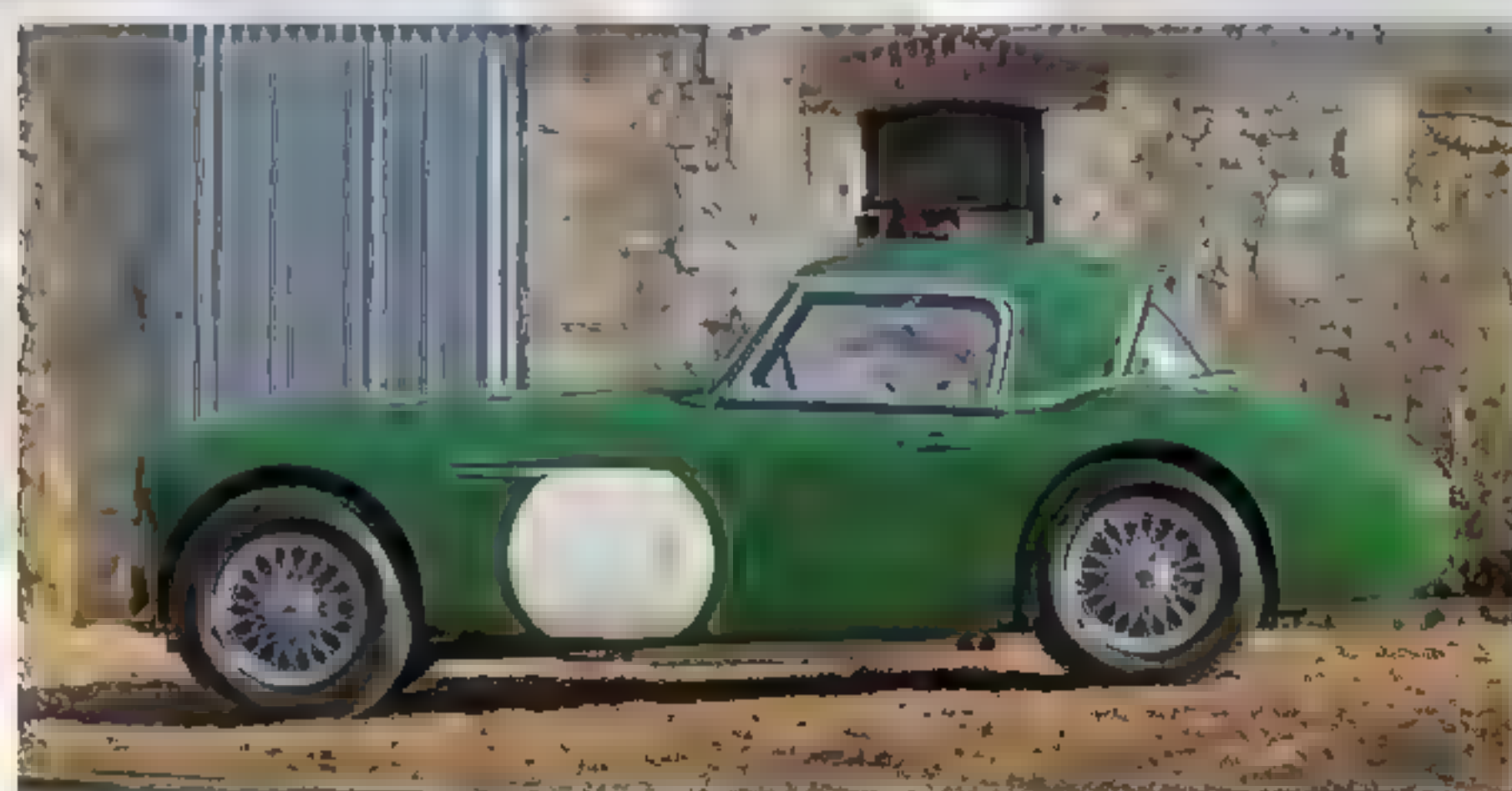


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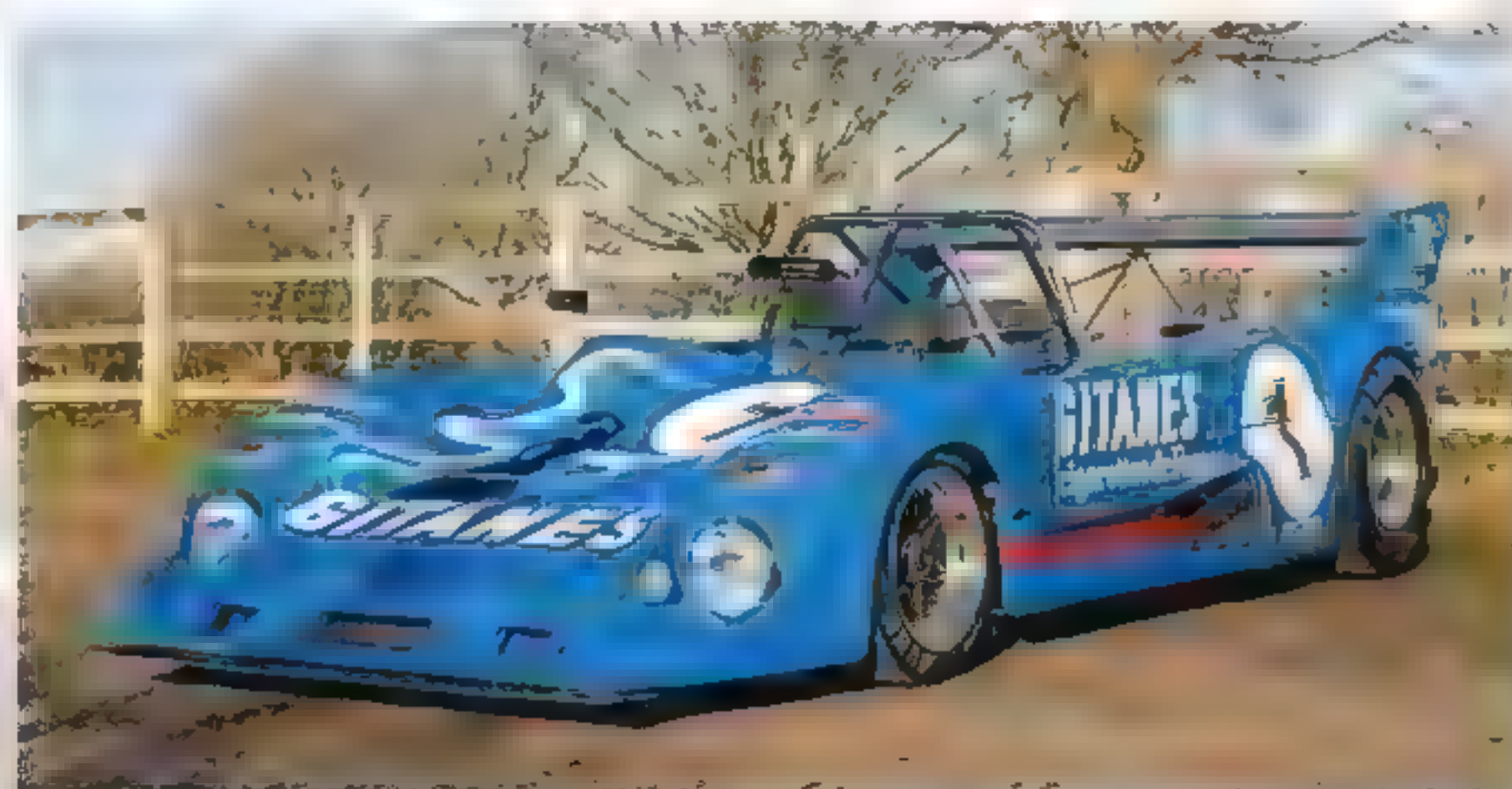


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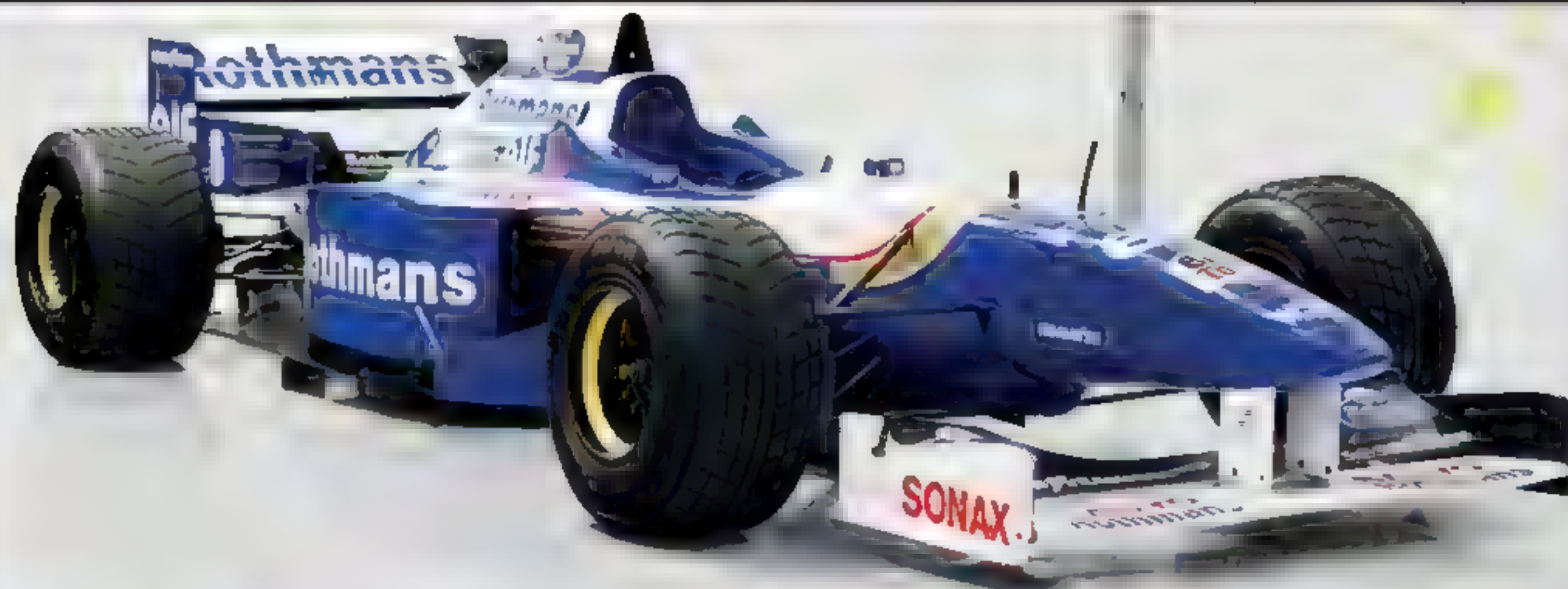
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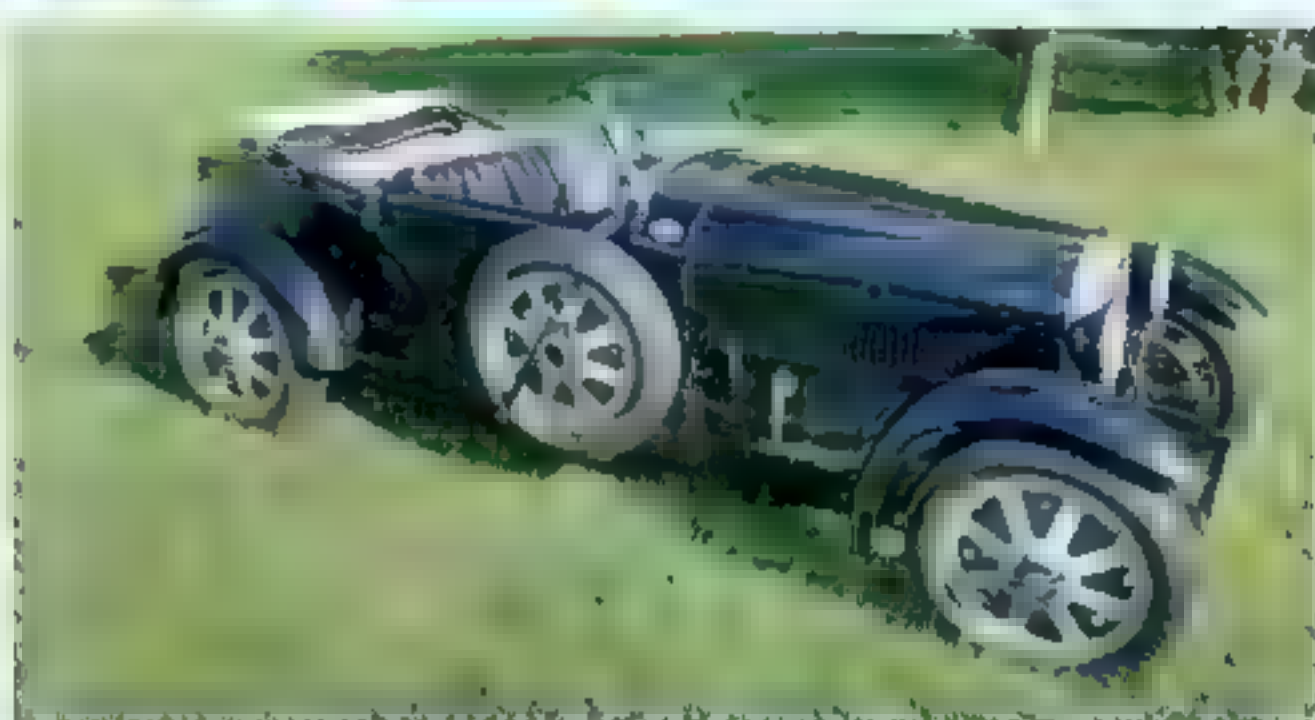
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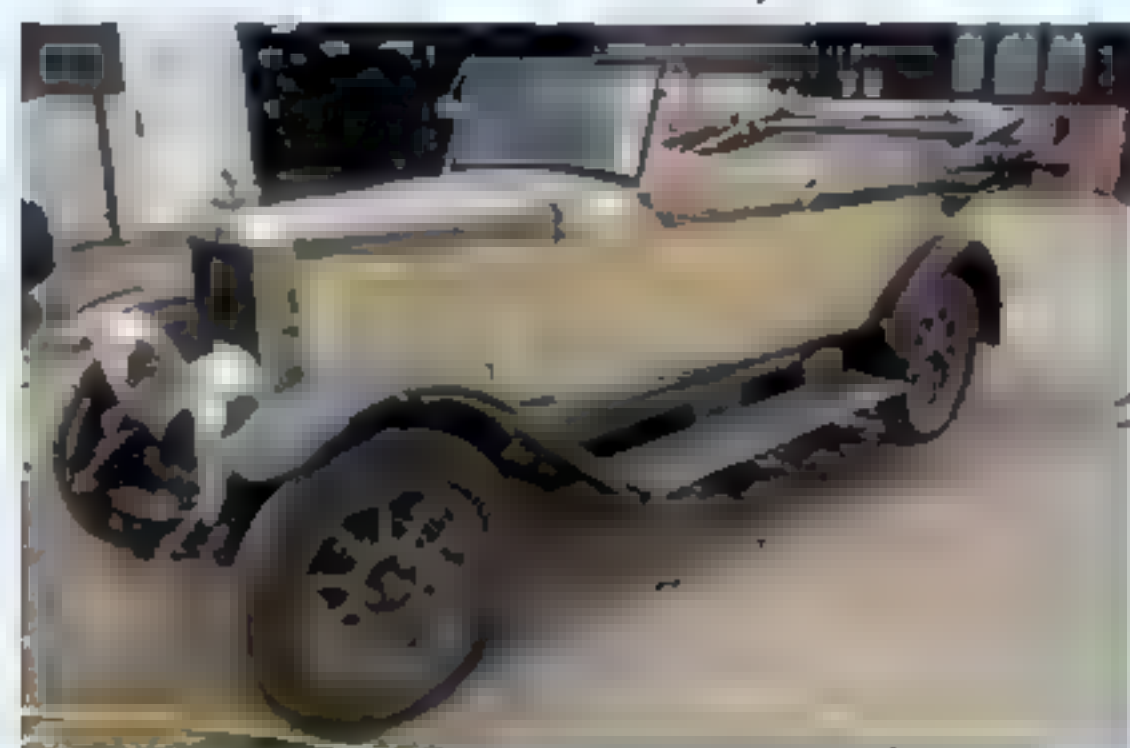
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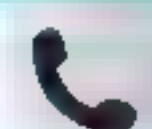
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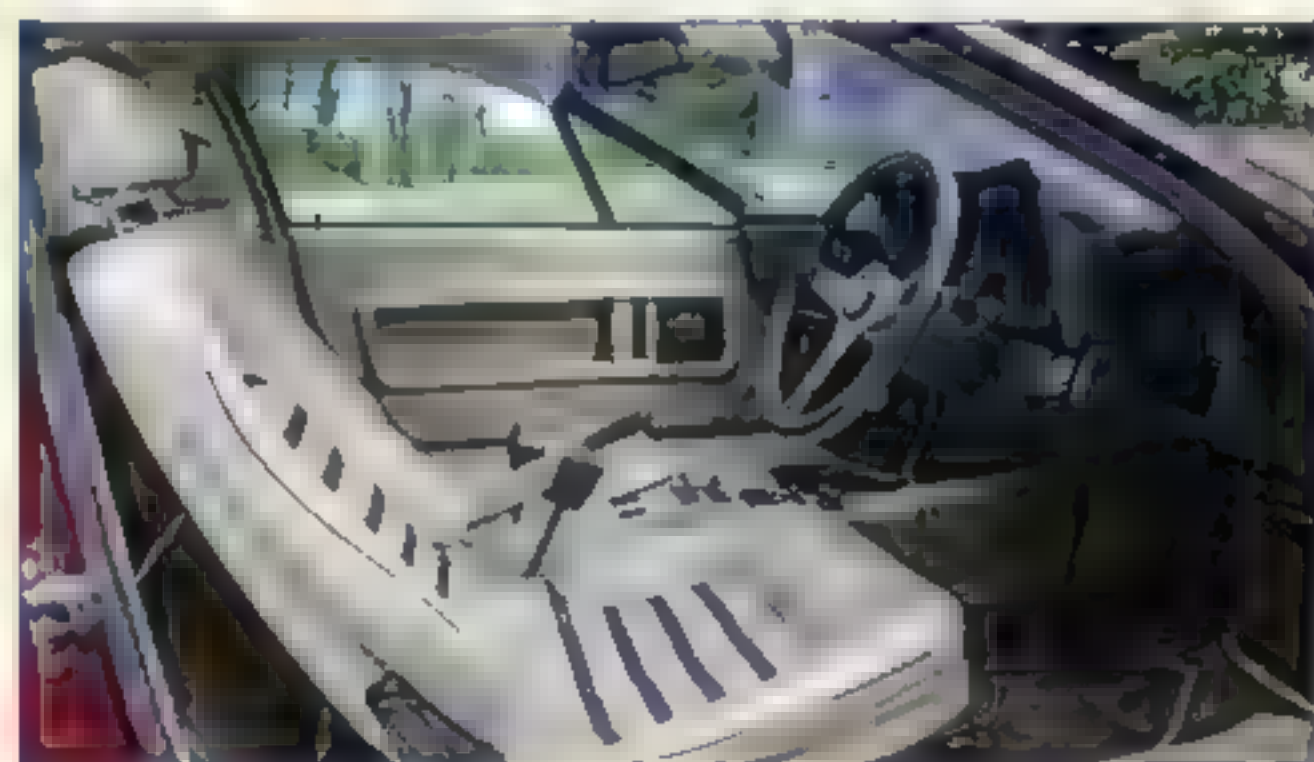
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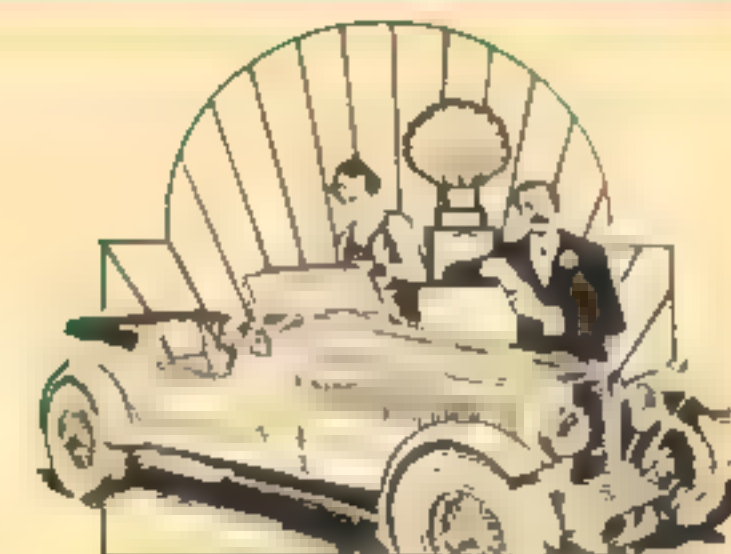


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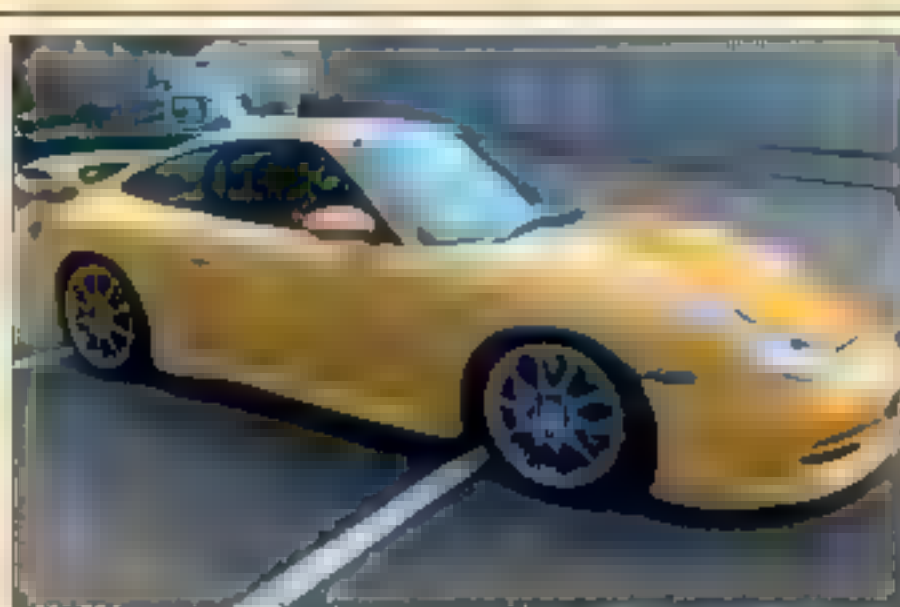
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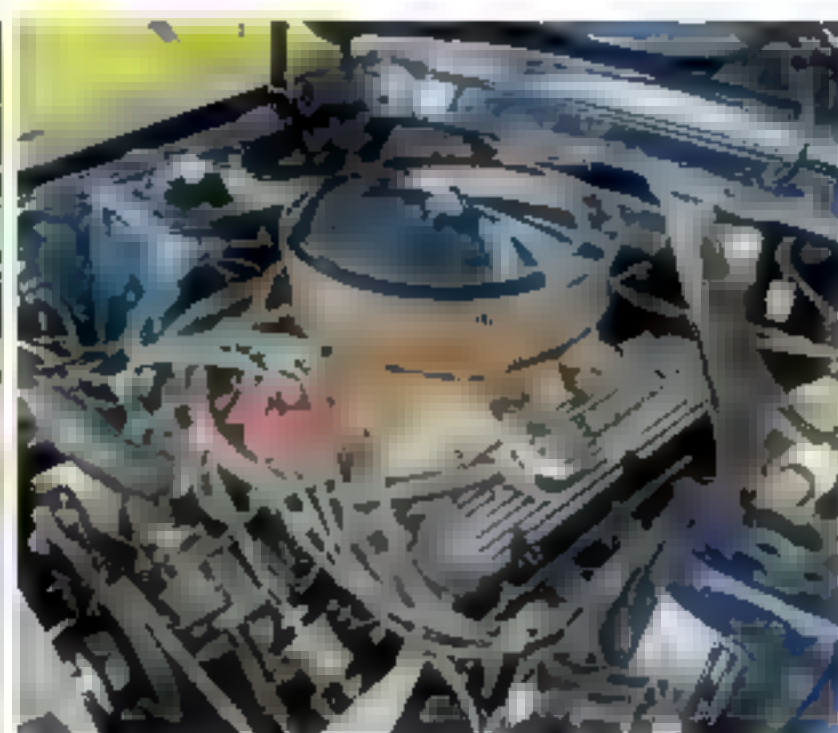
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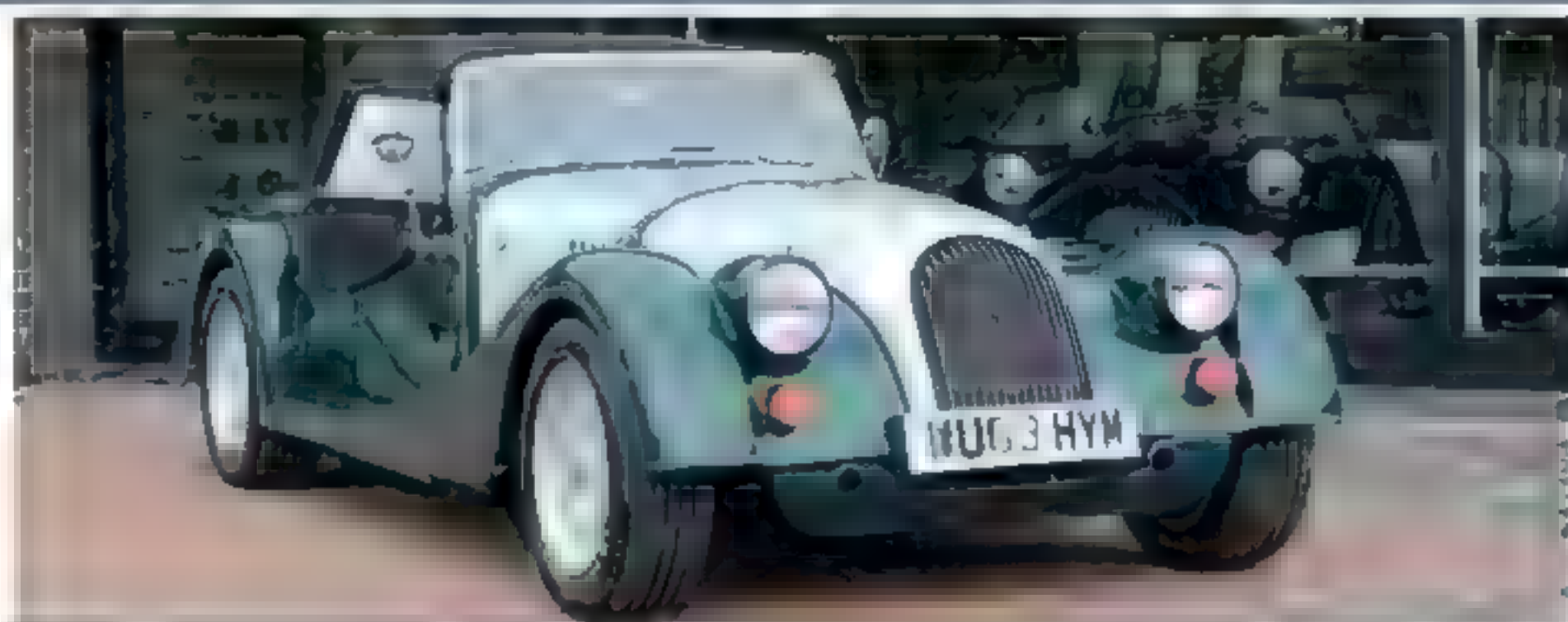
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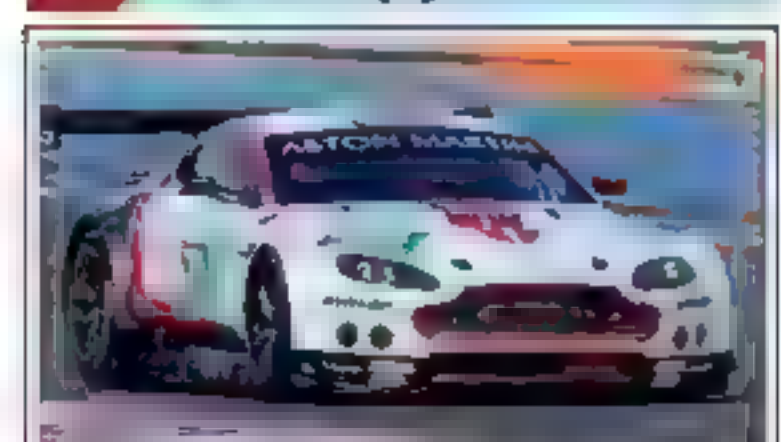
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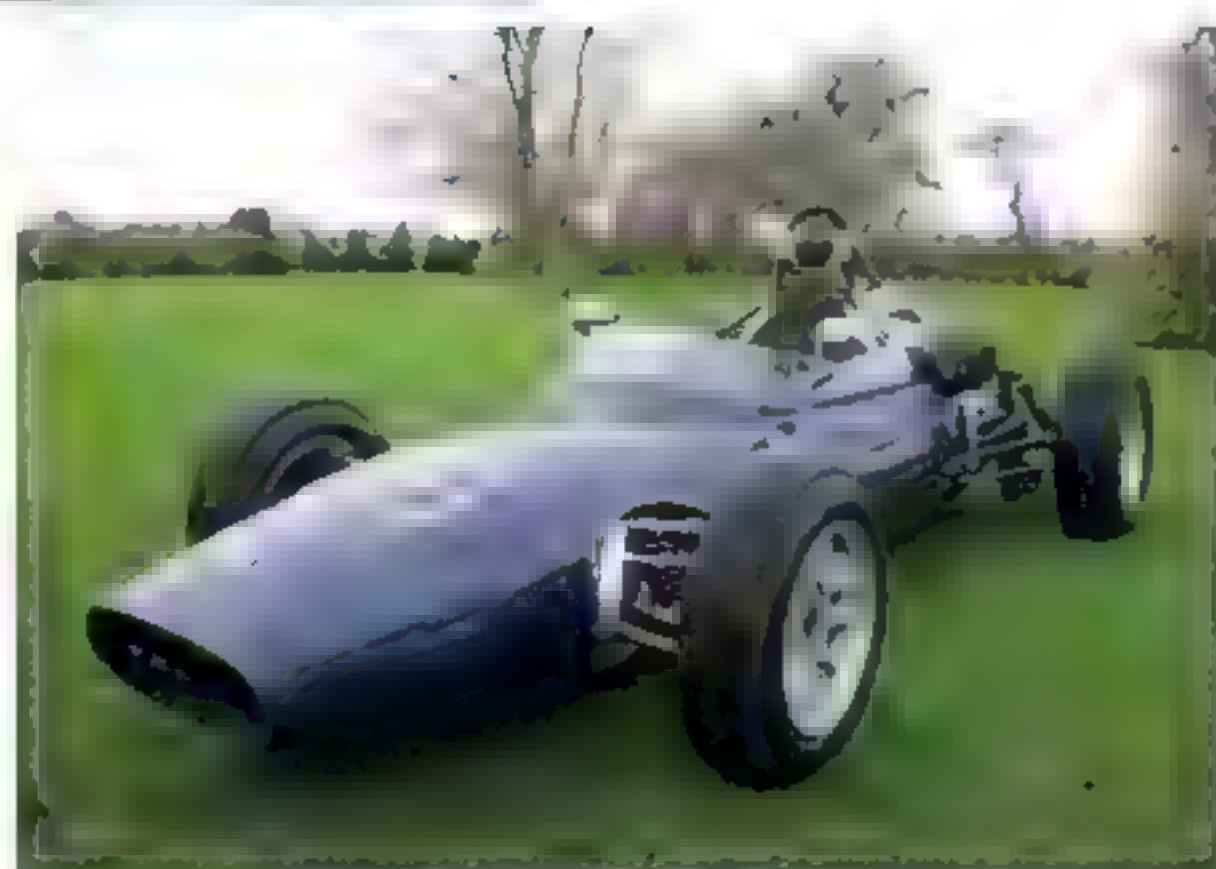
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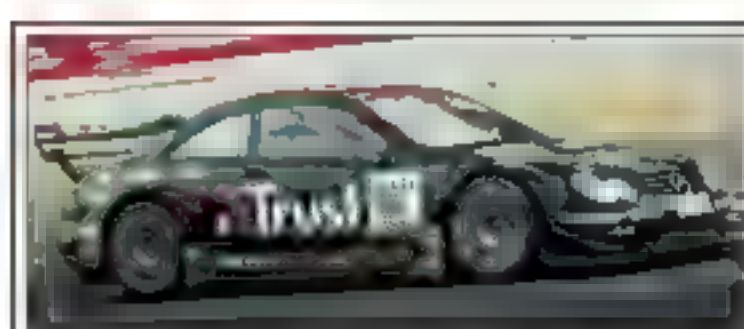
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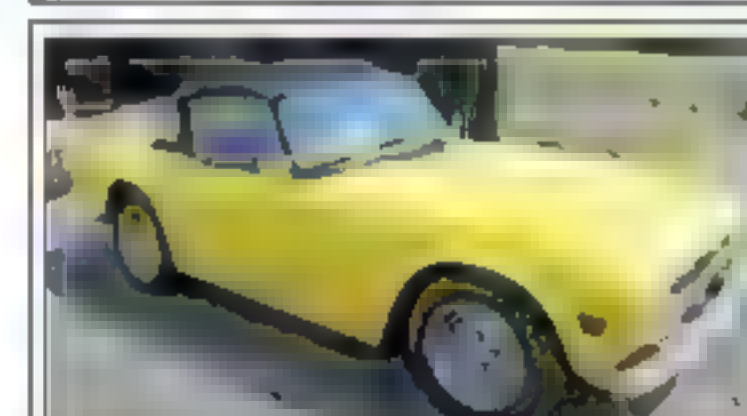


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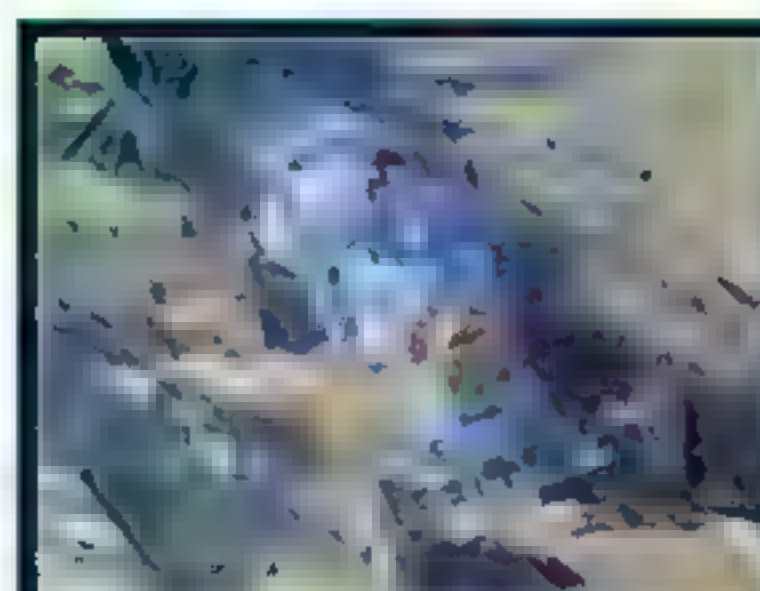
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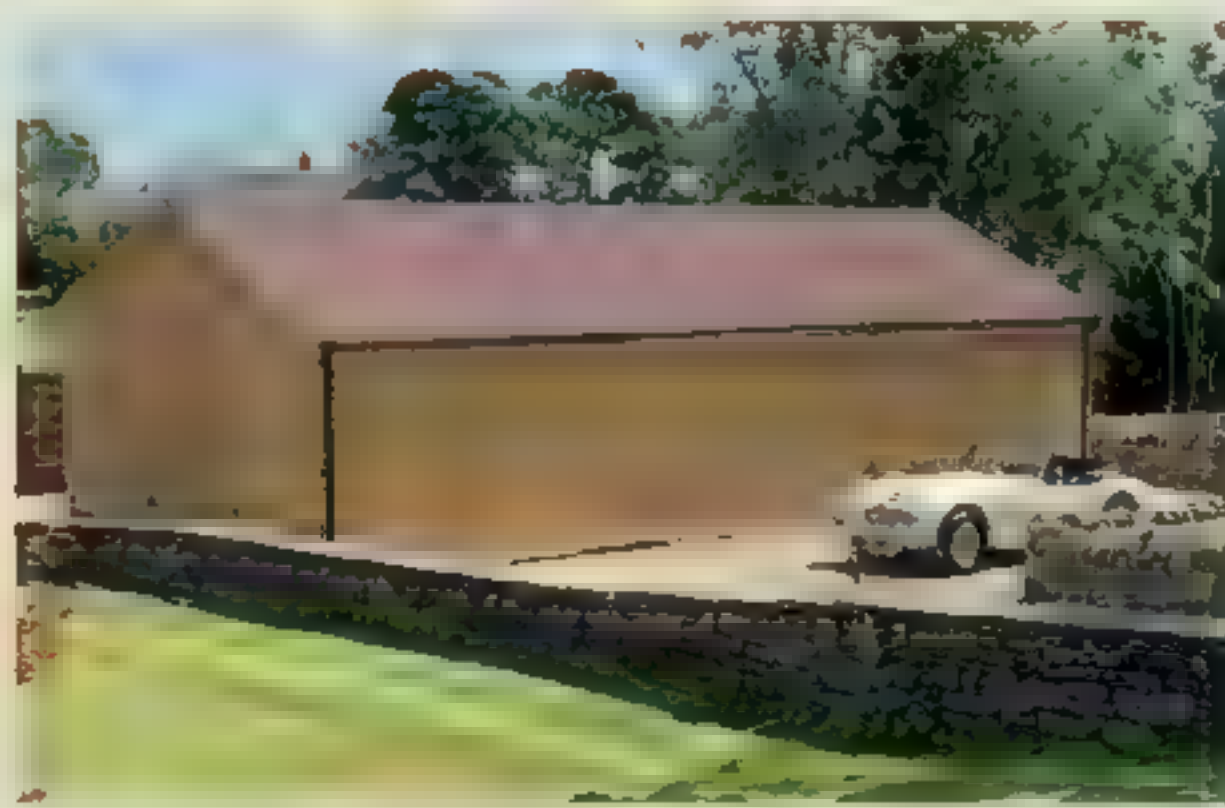
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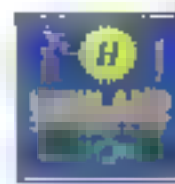
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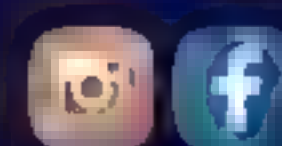


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Graham Hill signs autographs for the crowd after taking the E-type's inaugural win in Tommy Sopwith's ECD 400. He is perched in the third E-type at the meeting, 1600 RW



SEND US YOUR IMAGES

If you have any images that might be suitable for *You Were There*, send them to: *Motor Sport*, 18-20 Rosemont Road, London, NW3 6NE, or email: editorial@motorsportmagazine.co.uk. Hi-res digital images preferred. Original images sent at owner's own risk. We can't return.



The second E-type contesting the event was BUY 1, the John Coombs entry, which Roy Salvadori took to third place

The original Cheshire cat and how it got the cream

Our recent story featuring Damon Hill driving his father's E-type, the first competition entry of the model, prompted **Nick Rowe** to send us these excellent photographs. They were taken by his father who was present at that 1961 Oulton Park meeting which saw the design's race debut and its maiden victory in a 25-lap event in the hands of Graham Hill



1600 RW appeared at the event in a spectator role. It was the fourth E-type built and the first to be sold to a member of the public



**MAY 20, 1983
SPA, BELGIUM**

Having last hosted the Belgian Grand Prix in 1970, Spa – by now shorter and safer – was once again on the F1 schedule. In the sunshine of Friday practice, René Arnoux studies the lap times and finds himself off the pace set by André de Cesaris



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1978 Aston Martin V8 Oscar India Aegean blue with contrasting Oatmeal hide interior with Walnut dash and door cappings. The car has been enthusiast owned as can be seen by the way in which the history file has been diligently kept. It is exceptionally good to drive and likely to increase in value. **Realistically priced at £129,950**



1966 Aston Martin DB6 Vantage finished in Deep Ocean blue with contrasting Oatmeal hide interior and only 4000 miles ago was the subject of a complete restoration. The car which has had only 4 owners from new is understandably in superb condition and is an original Vantage with matching chassis and engine numbers. **Realistically priced at £359,950**



1966 Aston Martin DB5 finished in Midnight blue with contrasting black hide interior. This year the car has been the subject of £20,000 worth of cosmetic improvements to the interior and bodywork and is now in stunning condition throughout. Fitted with a Harvey Bailey handling kit for considerably improved road holding and coupled with a really strong engine, the car is a joy to drive. It has been in the same ownership for nearly 30 years and has always been the subject of regular maintenance. Very competitively priced for one in this condition at **£595,000**



1955 Aston Martin DB2/4 finished in Burgundy with contrasting Tan hide interior. Undoubtedly one of the best DB2/4's that we have encountered for many years. Complete restoration by Four Ashes specifically built as a fast road car for European touring. Having now driven this car I can confirm that it is quite exceptional in performance and yet docile in traffic when required. The cosmetic finish of the car is quite exemplary including the engine bay and the price we are asking is very reasonable for a DB2/4 in such fine condition. **£185,000**



1958 Aston Martin DB MkIII in midnight blue with tan hide interior. Sold by us to the present owner about 11 years ago, this excellent example has been the subject of a further £60,000 of expenditure during his ownership. This car is a delight to drive and is completely ready to be enjoyed by a new owner. Please enquire for further details. Offers around **£210,000**



1952 Aston Martin Le Mans Lightweight finished in Aston Racing green with beautiful original dark green leather and tartan bucket seats. This car is very well known in Aston circles as it is as close in specification to the Aston Martin Team cars that competed at Le Mans in the 1950's. It has been extensively raced in recent years at The Le Mans Classic and is in the process of being made race ready for the next owner. This is an extremely rare opportunity to acquire a very rare and desirable 50's race car that is eligible and already accepted by the organisers of numerous high profile events. It is of course also eligible for the Mille Miglia. **Please enquire**



1961 Aston Martin DB4 built to DB4GT specification. This fully restored Left Hand Drive DB4 was originally delivered new to a customer in Paris and remains French registered and we do not believe it will attract any duties if purchased by a European buyer. The specification includes a correct 12 plug cylinder head with twin distributors and twin coils, Borrani wire wheels, long range fuel tank and correct perspex rear windows. Needs to be viewed to be fully appreciated. **Please enquire**

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